

**Subbasin Assessment and Total Maximum Daily  
Loads of the North Fork Coeur d'Alene River  
(17010301)**

November 1, 2001

Idaho Department of Environmental Quality  
Coeur d'Alene Regional Office  
2110 Ironwood Parkway  
Coeur d'Alene ID 83814

## **Appendix E: Letters of Comment and Letters of Response**



**Shoshone  
Natural  
Resources  
Coalition**  
*A Voice for  
Responsible  
Resource  
Management*

**RECEIVED**  
JAN 22 2001  
IDHW-DEQ  
Coeur d'Alene Field Office

January 17, 2001

Dr. Geoff Harvey  
Department of Environmental Quality  
2110 Ironwood Parkway  
Coeur d'Alene, ID 83814

Dear Dr. Harvey,

Please find attached, a copy of Shoshone Natural Resources Coalition's comments on the North Fork TMDLs. We thank you for the time extension on the comment period and the chance to comment on the document.

Sincerely,

Kathy Zanetti

Facilitator, Shoshone Natural Resources Coalition

The Shoshone Natural Resources Coalition (SNRC) appreciates the opportunity to comment on the proposed TMDL's for the North Fork Coeur d' Alene River (TMDL). The SNRC is a broad-based local organization comprised by citizens of North Idaho who live, work, and play in this region.

1. In general, the sediment portion of the North Fork TMDL is very narrow in scope; basically relying on the following three (3) factors when evaluating stream health: 1) fish density per mile, 2) the presence or absence of various age classes of fish, and 3) macroinvertebrate population density and diversity. According to the TMDL supporting documentation, the macroinvertebrate population and density are within expected limits; however, the fish density and age class abundance are less than what would be expected. There are a variety of other factors that could affect fish abundance in the North Fork that were not fully evaluated. For instance, how do fish limits and their changes affect fish populations. Has the introduction of Northern Pike and Salmon in Lake Coeur d Alene adversely impacted the North Fork trout population? These other factors need to be considered and evaluated in determining the overall fish health of the North Fork.
2. This TMDL classifies excess sedimentation as a form of habitat alteration. Page 10 of the TMDL states that "Habitat alteration can occur in several actions. An incomplete list of these actions would include nearby road construction, removal of riparian vegetation, channelization or excess sedimentation. (emphasis added) Since TMDLs cannot and are not developed for segments impaired by flow or habitat alterations and the TMDL classifies excess sedimentation as habitat alteration, a TMDL should not be developed for excess sedimentation.
3. Page 43 of the TMDL states that "...the root parameter of concern for the North Fork is hydrologic modification". Section 303(d)(1)(A) of the Clean Water Act clearly indicates that TMDL development be reserved for those waters for which effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) are not stringent enough to implement the applicable water quality standard. A review of Clean Water Act sections 1311(b)(1)(A) and section 1311(b)(1)(B) indicates that these sections of the Clean Water Act are not applicable to roads or other habitat modifications; therefore, section 303(d)(1)(A) of the Clean Water Act cannot be used as authority to develop a TMDL for those segments of the North Fork impacted by non-point sources or habitat alteration.
4. None of the Sedimentation Mechanisms outlined on pages 43-44 can be classified as point sources; therefore, an enforceable TMDL cannot be developed. Furthermore, the Sedimentation Mechanisms should be classified as habitat alteration not suitable for TMDL development. Section 319 of the Clean Water Act specifically address non-point sources of pollution and should be used to address all non-point source pollution that has been shown to cause an exceedance of applicable water quality standards.

5. Section 2.4 - Pollution Control, page 48 of the TMDL apparently summarizes DEQ's general pollution control strategy. A key component of this strategy seems to be the removal of roads from flood plains with the Forest Service providing lists and priorities of roads slated for removal. While the SNRC supports efforts made to improve fish habitat in the North Fork system, we believe that a thorough and public evaluation needs to be completed before any roads are removed from the North Fork system. Although there may be existing roads in the North Fork sub-basin that the DEQ and USFS considers abandoned not everyone may agree with the DEQ and USFS; therefore, all interested persons need to have input into the selection process. Before any final lists of roads scheduled for reclamation or closure are published, SNRC requests that the public have a chance to review any draft lists and be given at least 30 days to comment and provide feedback. SNRC also requests that any comments received by the DEQ and USFS regarding any road closure list be given serious considerations and incorporated into any pollution control strategy whenever possible.
6. Some of the stream segments listed in the TMDL are not included in the latest version of the State's 303(d) list of impaired waters. Those stream segments not listed on the 303(d) list should be removed from this TMDL.

The SNRC generally supports the DEQ's efforts to improve on the already excellent fishery in the North Fork Coeur d' Alene River sub-basin. DEQ must recognize that the North Fork sub-basin is a multiple use area whose continued multiple use is vital to the residence of Shoshone County. SNRC recognizes the importance of protecting and enhancing the fish habitat in the North Fork; however, we cannot overlook the importance of continued recreational and timber harvest use. SNRC supports those efforts by the DEQ and other stakeholders that improve the North Fork fishery habitat while continuing to fully support the other current and future uses throughout the North Fork sub-basin. Once again, thank you for providing SNRC with the opportunity to comment on the draft North Fork TMDL's.

May 23, 2001

Kathy Zanetti  
Shoshone Natural Resource Coalition  
P.O. Box 1027  
Wallace ID 83873

Dear Kathy:

Thank you for the comment provided by the Shoshone Natural Resource Coalition (SNRC) on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs). A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made the Shoshone Natural Resource Coalition, as we understood them, and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: The support of fish is based on three narrow criteria in the TMDL. The TMDL does not take into account other factors such as fish introductions affected fish populations in the North Fork.

Response 1: The TMDL is designed to address only the pollutant of concern, which in this case is sediment. We agree that many other factors affect fish populations. These include non-native fish introductions, habitat alteration fishing pressure among others. The TMDL implementation plan will be required to acknowledge these other factors and either make provision for them or set surrogate measures of sediment control that once met will meet the TMDL.

It is clarified in the SBA that the implementation plan for sediment will need to acknowledge other factors affecting fish and either make provision for them or set surrogate measures of sediment control that once met will meet the TMDL.

Comment 2: A TMDL should not be developed for excess sedimentation.

Response 2: The TMDL is developed for that sediment which is estimated to be in excess of the watershed's ability to attenuate the sedimentation. This value is set at 50% above background, because the upper basin, which is supporting its uses is at 43% above background and the Washington Board of Forestry guidelines find no deleterious effect to water quality under 50% of background.

Comment 3: Since the root parameter of concern is hydrologic modification, section 303(d)(1)(A) which cannot be used as an authority to develop the TMDL for segments impacted by nonpoint sources and habitat alteration.

Response 3: The sub-basin assessment finds that sediment is the pollutant of concern. Sediment is a pollutant that can be allocated on a mass per unit time basis in a TMDL.

Kathy Zanetti  
May 23, 2001  
Page 2.

Comment 4: None of the sedimentation mechanisms outlined on pages 43-44 can be classified as point source pollution. Section 319 CWA should be used to address nonpoint sources.

Comment 4: DEQ disagrees that TMDLs are only required for waters impaired by point sources. TMDLs are a part of the water quality-based approach under section 303 of the Clean Water Act that is clearly not limited to point sources. See *Pronsolino v. Browner*, 91 F Supp 1337 (ND CA 2000) and Response to Comments regarding the TMDL for dissolved cadmium, lead and zinc in the CDA River Basin at 57 to 60.

In addition, Idaho law clearly requires TMDLs to address both point and nonpoint sources of pollution. Idaho Code sections 39-3602(27) (defines TMDL to include load allocations for nonpoint sources); 39-3611 (directs development of TMDLs to control point and nonpoint sources of pollution). The segments of the North Fork Coeur d'Alene River are listed on both the 1996 and 1998 Idaho 303(d) water quality limited segments list. The sub-basin assessment for the North Fork confirmed that the waters at issue do not meet state water quality standards. Therefore, TMDLs are required under CWA section 303(d).

Comment 5: The SNRC requests full disclosure of roads to be removed and public input in the process to include a 30-day comment period.

Response 5: The sediment TMDL is a plan to recover the water quality of the North Fork Coeur d'Alene River. An implementation plan will be developed as after the TMDL is approved. This implementation plan will contain details on actions to be taken some, of which could be road closures or more likely replacements. In any case the implementing agency, the Forest Service, would be required by federal law to give notice of any closure and provide for public input.

Comment 6: Some streams listed in the SBA are not listed on the most recent 303(D) list, These streams should be removed from the SBA.

Response 6: The SBA lists those streams on the 1998 303(d) list and those that were on the 1996 list, but removed from the 1998 list. In the case of sediment, the entire watershed yields sediment to the most downstream sediment listed segment, the North Fork Coeur d'Alene River between Yellow Dog Creek and the mouth. Since this is the case the TMDL for this segment must address sediment from the entire North Fork watershed. This point is made clearly in the SBA.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator

RECEIVED

JAN 22 2001

IDHW-DEQ  
Coeur d'Alene Field Office

John Osborn, MD  
2421 W. Mission Ave.  
Spokane, Washington 99201

January 20, 2001

Geoff Harvey  
Idaho Department of Environmental Quality  
Coeur d'Alene Regional Office  
2110 Ironwood Parkway, Suite 100  
Coeur d'Alene, Idaho 83814-2648

Dear Mr. Harvey,

On behalf of The Lands Council, Sierra Club, and Idaho Wildlife Federation, I wish to submit the following comments on Idaho State government's proposed TMDL (Draft Sub-basin Assessment and Total Maximum Daily Loads of the North Fork Coeur d'Alene River) for a watershed of extraordinary importance to Washington State: the Coeur d'Alene River's North Fork.

The TMDL required under the Clean Water Act would seem to provide Idaho State an opportunity to protect and restore the North Fork. Indeed we wish to thank Idaho State for proposing in the TMDL the "removal of roads from flood plains and rehabilitation of the road crossings and approaches which deliver excess waters and sediment to the streams." [p. 48] Idaho State, however, advocates a strategy that can be summarized as "logging watersheds to health": cutting remaining forest canopies in order to pay for limited and speculative restoration efforts.

Idaho's proposal can be expected to (1) worsen the flooding problems on the North Fork, (2) damage fisheries, and (3) wash more toxic mine waste downstream into the city of Spokane.

#### (1) IDAHO WOULD WORSEN FLOODING

To the casual observer, flying over the forests of the Coeur d'Alene's North Fork reveals the full extent of the clearcuts and logging roads that are mostly hidden behind the "beauty strips" strategically left along the major roads.

Comparing historic photographs from the 1930s to the 1990s underscores the dramatic change in this watershed. (Such photos currently are on display at the Spokane



International Airport, and we encourage Idaho State officials to look at them.) These photographs reveal hundreds of clearcuts that were not present during the 1930s. Many clearcuts are located up high on mountain sides and mountain tops.

Aerial photographs also reveal logging roads stacked one upon another. These are the so-called Idaho "jammer roads". Average road densities, a measure for unhealthy forests, exceed 11 road miles per square mile of forest on the Coeur d'Alene National Forest. This is an astounding figure, the highest logging road densities in the entire United States National Forest System.

The Coeur d'Alene River's North Fork has become a "poster child" for the national debate over forest practices in the National Forests. *The New York Times*, for example, published an aerial photograph of clearcuts and roads in the North Fork, and an accompanying article featuring the Coeur d'Alene, "Quiet Roads Bringing Thundering Protests: Congress to Battle Over Who Pays to Get to National Forest Trees." [May 23, 1997]

The relationship between cutting forests and resultant flooding has been long recognized. Protecting watersheds is the foundation for the National Forest System. Gifford Pinchot, Chief of the Forest Service under President Theodore Roosevelt, testified before Congress on this matter. In one hand Pinchot would hold a picture of a mountainside denuded of its forests; in his other hand, a sponge representing an intact forest. When the forester poured water on the clearcut, it ran off on the floor. Not so the sponge: the intact forest held the water.

During the 1970s US Forest Service hydrologists articulated their concerns publicly about the impact of logging and road-building on worsening floods of the North Fork. [See for example, Fred Rabe and David Flaherty. *The River of Green and Gold*, Idaho Research Foundation, 1974.] During the 1980s hydrologists continued their criticism of the North Fork logging practices. [See, for example, *Clearcutting hurts streams*, Jeff Sher, *Spokesman-Review* June 23, 1983.] The result? Logging continued. These hydrologists were removed from the Idaho Panhandle National Forests.

Compacted road surfaces increase water delivered to streams. So, too, are peak flows increased by the impact of road cutting into mountain sides, piercing and draining perched water tables.

The Coeur d'Alene forest is remarkable for large areas that are in "rain-on-snow" elevation ranges of 3,300 to 4,500 feet (TMDL, p. 3). Snow accumulates. Warm winter storms can cause a rapid melt of the snow pack. In areas denuded of trees such as clearcuts, increased amounts of water are released into the river system. As noted by U.S. Forest Service hydrologist Gary Kappesser in "A Procedure for Evaluating Risk of Increasing Peak Flows from Rain on Snow Events by Creating Openings in the Forest Canopy":

Some of the largest and most damaging flood events in north Idaho have occurred in November through February from "rain on snow" events. Warm pacific maritime air masses moving into the area provide the moisture and energy to rapidly melt existing snowpacks. Latent heat of condensation is liberated as the water vapor in the warm moist air condenses at the snow surface. Rate of heat liberation is a function of wind velocity at the snow surface to provide a continuing source of water vapor. Large openings in the forest canopy created by timber harvest can result in significantly increased wind velocities at the snow surface. This will produce an altered hydrologic response with higher flood peaks, shorter times to rise, and shorter recession. The result may be destabilized stream channels with increased bedload transport. The risk of increasing peak flows through timber harvest may be evaluated in terms of significant causal factors. These include elevation range, size of opening created in the canopy, percent crown cover removed, and a combination of aspect and slope. [USFS. Idaho Panhandle National Forests. March, 1991.]

The relationship between stream flow and energy is logarithmic: as stream flow doubles, stream energy increases 10 times. Increased peak flows in the upper watershed damage stream structures, producing bedload sediment. Like dominos falling, streams high up in the watershed begin to unravel, producing the bedload sediment causing damage all the way through the system. The North Fork is unraveling from the top of the watershed all the way down.

The hydrology of the Coeur d'Alene River's North Fork has been profoundly changed by Idaho jammer roads stacked one upon another, and massive clearcutting in rain-on-snow zones.

What is an appropriate intervention to restore this watershed? Idaho State, as the author of this TMDL, proposes more logging as the fix. Idaho proposes the very treatments that inflicted such grave injury on this forest watershed. Idaho blithely assumes that receipts from logging can be used to pull some culverts and remove some roads. (It is worthwhile noting that similar rosy assumptions by the USFS about receipts used to "improve" the forest proved incorrect when timber markets declined in the region.)

As noted in the comments by the Kootenai Environmental Alliance submitted to Idaho State on January 18:

The sub-basin Assessment does not examine the issues relating to the large flows of water that are leaving the watersheds and drainages on National Forest lands. Pulling some culverts and closing some roads will not stop the large flows of water from the watersheds that have been clearcut, while at the same time new logging would open more of the canopy with new logging units. The 17, 287 acres that were clearcut between the years 1980 and 1989 on the CDA National Forest have not

recovered hydrologically. The over 11,000 acres that were clearcut cut between the years 1990 and 1999 have not recovered hydrologically. The figure of 28,000+ acres equals approximately 44.2 sq miles being clearcut during the past 20 years. No evidence has been cited in the Assessment that refutes the findings stated in "Forest Hydrology, Hydrologic Effects of Vegetation Manipulation" regarding logging and increases in streamflow. The USFS document was cited on page 3 of our May 2, 2000 letter.

The Idaho proposal, by cutting away even more forest canopy, will worsen flooding.

## IDAHO WOULD DAMAGE FISHERIES

In the Inland Northwest, fisheries are an important issue. Fisheries contribute significantly to quality of life and a growing and robust economy based on high quality outdoor recreation.

The Coeur d'Alene River's North Fork was once the region's most important fishery. Deep pools supported a healthy trout fishery that was a short drive from large population centers in Coeur d'Alene and Spokane.

All that has changed.

Deep pools needed by fisheries for overwintering habitat have been filled in by bedload sediment, destroying the fishery. As acknowledged in Idaho's TMDL, "The evidence indicates that stream bed instability may have lead to interference with trout recruitment and the loss of pools, a critical habitat to trout. As a result trout densities are low." (TMDL, p. 14.)

The Idaho proposal, by cutting away even more forest canopy, will worsen flooding. This already unstable watershed will further unravel, mobilizing even more bedload sediment into the system, and further damaging habitat for fish.

## IDAHO WOULD FURTHER POLLUTE WASHINGTON WITH TOXIC FLOODS

There is a direct connection between Idaho's toxic mine waste washing onto the beaches of Spokane, Washington, and the clearcuts and logging roads of the Coeur d'Alene forest.

The mining pollution comes from the Coeur d'Alene's South Fork; the floods, the North Fork. Combining these two problems results in "toxic floods".

The Coeur d'Alene River's South Fork is the source of mine waste. Over a century, mining companies used the South Fork as an industrial sewer, dumping 70 million tons of

toxic mine waste directly into the waters of the South Fork. The pollution flowed downstream

If you are standing at the confluence of these two rivers you can see the South Fork's stream bed and banks discolored by upstream mining. You can then turn and look at the North Fork: the river is shallow with large rocks lacking moss, indicating an unravelling river system choked with bedload sediment. When these two rivers converge, their waters bring together two separate histories (mining and logging): toxic mine wastes such as lead, zinc, cadmium and arsenic, and the floods. Combining these two rivers and their separate pathologies results in the Coeur d'Alene's toxic floods.

About 100 million tons of toxic soils now temporarily rest in the floodplain between the confluence and the lake, vulnerable to the North Fork's floods. The paramount importance of this toxic floodplain to the region is noted in the Feasibility Study:

[T]he impacted floodplain sediments are the major source of metals in basin waters, the major source of metal exposure risk to ecological receptors and a major source to humans, and a major source of potential future recontamination of downstream areas that are cleaned up. The estimated mass and extent of impacted site media—primarily sediments—exceeds 100 million tons dispersed over thousands of acres. (.) [Draft Feasibility Study Report for the Coeur d'Alene Basin Remedial Investigation/Feasibility Study. Dec. 20, 2000. hereafter "RIFS". Part 1, Overview/Preface p. iv)

Restoring the hydrologic integrity of the watersheds of the Spokane River—Lake Coeur d'Alene region is paramount because of mine waste pollution. As noted by EPA, "Past mining practices have resulted in the broad distribution of mine wastes throughout much of the upper and lower [Coeur d'Alene] basins. Metal contamination associated with this material continues to move within the hydrologic/hydrogeologic system from the upper and lower basins downstream into Coeur d'Alene Lake and the Spokane River. [RIFS, overview, 2.6. The relationship between watersheds and mining pollution is illustrated in RIFS Figure 2.1-1, "Conceptual Model of Fate and Transport Coeur d'Alene River and Watershed."]

In the flood of February 1996 in the Spokane River—Lake Coeur d'Alene watershed, USGS estimated that in just a single day the floodwaters carried over a million pounds of lead into Lake Coeur d'Alene. The floods sweep across a floodplain between Cataldo and Harrison that is covered with millions of tons of mine waste that has washed down from the Coeur d'Alene mining district.

Lake Coeur d'Alene, Idaho's second largest lake, is an inefficient trap for the mine waste, although the lake bottom is covered with about 70 million tons of toxic sediments. The RIFS notes that "little sediment is transported through Coeur d'Alene Lake except during flood events." (Section 2.0)

As USGS discovered, the toxic metals move with the runoff plume surprisingly often, through Lake Coeur d'Alene, and into the Spokane River and Washington State.

Pollution of fish and beaches has prompted the issuing of Health Advisories by the Spokane Regional Health District, the Washington State Department of Health, and Washington State Department of Ecology.

The critical importance between Coeur d'Alene floods and the toxic-covered floodplain perched above Lake Coeur d'Alene is revealed in some of the "Key Technical Issues" pertaining to the proposed clean-up of the mine waste:

- \*Impacted sediments--Large-scale cleanup of impacted sediments would be difficult and costly, presenting major technical and administrative challenges as well as significant adverse short-term impacts to the local communities and natural environment.

- \*Recontamination--Periodic flooding can recontaminate previously remediated areas where storm, snow melt, or flood waters have caused erosion and subsequent redeposition of contaminated sediments. This is a particular concern for community recontamination in smaller basin communities....For residents living in or near flood plains, uncontrolled surface water runoff, especially during flood events, has a high likelihood of recontaminating properties where remediation has previously been conducted.

- \*Long-term management and associated costs--Required periodic cleanups of remediated areas that are recontaminated by subsequent flood events would add to long-term management costs, as would required long-term monitoring and periodic site reviews. [RIFS, page vi, vii]

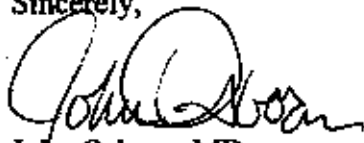
Because of clearcuts above toxic mine waste, the future of the Coeur d'Alene River's badly damaged forests is also the future of Lake Coeur d'Alene and the Spokane River. Any comprehensive proposal to clean-up the heavy metal pollution must necessarily include forest protection and restoration.

Idaho, already polluting Washington waters, would worsen this injury by cutting away even more forest canopy and worsening the flooding.

In closing, Idaho State does not address the overriding problem of increased flooding from forests damaged by past road-building and logging. Idaho State actually proposes to "log the river back to health." Idaho's proposal can be expected to worsen the flooding problems on the North Fork, damage fisheries, and wash more toxic mine waste downstream into the city of Spokane.

Idaho continues to act in a way that threatens public health and environmental quality for its own citizens, as well as the citizens of Washington State.

Sincerely,



John Osborn, MD

founder, The Lands Council

conservation chair, Northern Rockies Chapter Sierra Club

Pacific time zone Rep, Idaho Wildlife Federation

cc:

Governor Gary Locke

Attorney General Christine Gregoire.

Asst Attorney General Owen F. Clarke

Tony Grover, Dept of Ecology

Sen. Patty Murray

Sen. Maria Cantwell

Michael Gearheard, EPA

Clifford Villa, EPA

Ernest Stensgar, Chair, Coeur d'Alene Indian Nation

Bruce Wynne, Chair, Spokane Indian Nation

May 23, 2001

John Osborn, M.D.  
The Land Council  
2421 W. Mission Avenue  
Spokane WA 99201

Dear Dr. Osborn:

Thank you for the comment provided by The Land Council on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs). A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made by The Lands Council as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: The Idaho proposal will worsen flooding. The SBA does not examine the relationship between clear cutting and floods. The SBA prescribes cutting to remedy the situation and assumes receipts from timber sales can be used to fix road problems.

Response 1: The sub-basin assessment does examine clear cutting and flooding. The flood frequency of the North Fork is analyzed on page 11 of the Sub-basin Assessment. The analysis examines the peak discharge events over the past sixty-two years. It finds that the 1974 and 1996 high discharge events are the largest of record. The 1933 event is thought to be the largest flood of historic times based on photographic evidence and the Cataldo and Post Falls gauges. The 1974 and 1996 events are listed in their order of size. The history of logging is clear that clear cuts began in the forty's and fifty's and intensified through the 1960's and 1970's and decelerated into the 1980's. The flood history does not support the argument that clear cutting has caused greater flood discharges.

The SBA does not take a position on timber harvest. It clearly states this fact on page 49. It simply states that if timber harvest is pursued (a decision of the Forest Service, BLM, IDL, Louisiana Pacific and numerous private landowners) the pollution credit scheme suggested might be instituted to make road remediation a part of doing business.

The SBA was revised to further clarify that the data of high discharge occurrence does not support the contention that clear cutting increases flood frequency or high discharge event size.

Comment 2: Idaho would damage fisheries. By cutting more trees flooding would be worsened and more sedimentation would occur.

Response 2: This comment is based on the erroneous assumption of comment 1. The flood frequency analysis and flood data does not support the contention of increased discharge. The data in hand does not indicate that cutting trees necessarily increases sedimentation markedly.

John Osborn, M.D.  
May 23, 2001  
Page 2.

Comment 3: Idaho would further pollute Washington with toxic floods. Floods from the North Fork carry metals contamination through Coeur d'Alene Lake and into the Spokane River and Washington.

Response 3: The comment assumes that the sub-basin (SBA) assessment advocates timber harvest and timber harvest by clear cutting. The comment further assumes that clear cutting creates greater discharges to the Coeur d'Alene River where metals contaminated sediments are entrained.

The SBA does not take a position on timber harvest. It clearly states this position on page 49. It simply states that if timber harvest is pursued (a decision of the Forest Service, BLM, IDL, Louisiana Pacific and numerous private landowners) the pollution credit scheme suggested might be instituted to make road remediation a part of doing business.

The flood frequency of the North Fork is analyzed on page 11 of the Sub-basin Assessment. The analysis examines the peak discharge events over the past sixty-two years. It finds that the 1974 and 1996 high discharge events are the largest of record. The 1933 event is thought to be the largest flood of historic times based on photographic evidence and the Cataldo and Post Falls gauges. The 1974 and 1996 events are listed in their order of size. The history of logging is clear that clear cuts began in the forty's and fifty's and intensified through the 1960's and 1970's and decelerated into the 1980's. The flood history does not support the argument that clear cutting has caused greater flood discharges.

The riverbed has filled with cobble materials. This phenomenon is related to erosion rates. The presence of this material has caused discharges of lower amounts to result in more over bank flooding, causing the impression that higher discharges have occurred with the proliferation of clear cutting.

We respectfully suggest that both assumptions upon which the comments were based are in error.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator



**MICHAEL K. BRANSTETTER**

P.O. BOX 571, OSBURN, ID 83849  
(208) 753-3701

RECEIVED

JAN 22 2001

IDHW-DEQ  
Coeur d'Alene Field Office

January 19, 2001

Geoff Harvey  
Idaho Department of Environmental Quality  
2110 Ironwood Parkway  
Coeur d'Alene, ID 83814

RE: TMDL - North Fork Coeur d'Alene River #17010301

Dear Mr. Harvey:

Please accept these comments on the above matter. I am a property owner in Beaver Creek.

It appears to me the State is engaged in rulemaking without following the proper procedures. Therefore, the TMDL's and subsidiary discharge limits, if implemented, are of no legal force and effect and cannot be applied in Beaver Creek or the North Fork Coeur d'Alene River Sub-Basin.

Sincerely,



Michael K. Branstetter

MKB:mkb

**COMMENTS OF  
ASARCO INCORPORATED  
ON THE DRAFT SUB-BASIN ASSESSMENT  
AND TOTAL MAXIMUM DAILY LOAD  
OF THE NORTH FORK COEUR D'ALENE RIVER**

Submitted January 20, 2001

**I. SUMMARY OF COMMENTS**

**II. GENERAL AND SPECIFIC COMMENTS**

**A. Deferral or Phasing of metals TMDL**

1. DEQ should defer the metals TMDL until completion of the CERCLA initiated removal actions
2. If DEQ does not defer the metals TMDL, then it should specifically phase the metals TMDL
3. DEQ should defer or phase the metals TMDL to allow development and use of site-specific water quality criteria
4. DEQ should defer or phase the metals TMDL to allow development of sufficient site-specific data

**B. DEQ Authority**

1. Idaho Code § 39-3611 limits controls on point sources
2. The State of Idaho and Idaho DEQ are required to conduct rulemaking under the Idaho APA in order to promulgate TMDLs

**C. Loading Allocation**

1. There should be a greater emphasis that this is a phased TMDL
2. The calculation of discrete discharges of metals is indecipherable and erroneous
3. The waste load allocations should not decrease as creek flows increase
4. Lead should be deleted from the TMDL for the East Fork of Eagle Creek
5. Dissolved to Total Recoverable metals ratios should be incorporated into the metals TMDL
6. Within Tributary Creek the hardness from adit and seep flows add to the loading capacity

7. Within Tributary Creek there is an inverse relationship between flow and hardness

**D. Adequacy of Technical Information**

1. The TMDL's assessment of point sources is inadequate
2. Biological monitoring can be used to establish ecological goals for the Basin
3. Site-specific metals criteria will result in a technically superior TMDL

**E. Margin of Safety**

1. By using the EPA developed metals criteria, DEQ already has sufficient margin of safety.
2. The flow tier approach provides a margin of safety not acknowledged in the TMDL.

**F. Technical and Economic Feasibility**

1. DEQ should not impose a metals TMDL without knowing whether the source reductions will be technically or economically feasible.

**G. Editorial Corrections**

**CONCLUSION**

**COMMENTS OF  
ASARCO INCORPORATED  
ON THE DRAFT SUB-BASIN ASSESSMENT  
AND TOTAL MAXIMUM DAILY LOAD  
OF THE NORTH FORK COEUR D'ALENE RIVER**

Asarco Incorporated ("Asarco") appreciates the opportunity to submit comments on the proposed TMDL for cadmium, lead and zinc in the East Fork of Eagle Creek

**I. SUMMARY OF COMMENTS**

Throughout the following comments Asarco will refer to the *Draft Sub-Basin Assessment and Total Maximum Daily Loads of the North Fork Coeur d'Alene River* as the "SBA" and the metals TMDL within the SBA as the "metals TMDL." The *Total Maximum Daily Load for Dissolved Cadmium, Dissolved Lead, and Dissolved Zinc in Surface Waters of the Coeur d'Alene Basin* is referred to as the "SFCDR TMDL". A *Draft Field Sampling and Data Report* by McCulley, Frick and Gillman will be released in February 2001 and is generally referred to as "data obtained by McCulley, Frick and Gilman."

Based on Asarco's review of the draft SBA and metals TMDL, Asarco believes that the metals TMDL is premature, is based on inadequate information and needs to be deferred. Asarco notes that there is no urgency for doing the TMDL because improvements will be occurring under the existing and planned remedial activities. The risks of promulgating a final metals TMDL include:

- the use of more stringent metals standards than necessary to protect water quality,
- the assignment of inappropriate waste load allocations ("WLAs") to specific point sources,
- the implementation of the assigned WLAs by EPA in NPDES permits regardless of cost, feasibility or ultimate benefit, and in spite of DEQ's intention to impose only a "practical level of treatment,"
- the limitation to just a 5 year NPDES permit cycle to achieve the WLA based limits, and
- the additional burden of anti-backsliding requirements on those permits, where such limits, once attained, must continue even if the standards themselves are relaxed through mechanisms such as site-specific criteria.

Asarco is concerned that an excessive focus on stringent limits for point sources will detract from the ongoing remedial activities that seek to address the more significant non-point sources. Asarco is also concerned that the metals TMDL, with all of its short-

comings, could become an ARAR driving the remedial activities, instead of simply allowing them to occur and then evaluating their effectiveness.

For all of the above reasons, Asarco urges that the metals TMDL be deferred. Should DEQ not defer the metals TMDL, then DEQ should make the metals TMDL a phased TMDL in which the first phase will be to focus on the remedial actions and the gathering of more and better data to assess the effects of those actions. The first phase should not identify specific WLAs, but should stress that the data gathered in the first phase will be used to determine whether or not site specific criteria development is needed. Only after such evaluation, and after site specific criteria development should a second phase metals TMDL be considered.

The crux of these recommendations is that much better information is needed before the metals TMDL should advance to establishing WLAs for point sources. Part of Asarco's concern is because of the inherent inaccuracy in the present draft, and part is because EPA writes the permits to implement WLAs. EPA has shown elsewhere in Idaho that they will implement WLAs in absolute fashion, with short compliance times, regardless of DEQ's stated intentions. The metals TMDL actually acknowledges the scarcity of data and the need to revise the metals TMDL in the future as more exact measurements are developed. That provides little comfort as EPA implements the published WLAs. The scarcity of data also provides little comfort if the metals TMDL is treated as an ARAR driving the remedial activities in the subbasin.

Asarco questions DEQ's authority under state law to prepare TMDLs for water bodies that are dominated by nonpoint sources. Asarco also notes that under state law, TMDL development must be conducted through rulemaking.

Asarco notes that new data collected by McCulley, Frick and Gillman<sup>1</sup> shows that within Tributary Creek, hardness associated with both the point and nonpoint sources is significant and the metals TMDL will need to factor in hardness. (See comment II.C.6) Asarco also notes that site-specific criteria development in the South Fork of the Coeur d'Alene River provides strong evidence that it is inappropriate to use existing state metals standards for a metals TMDL in the North Fork of the Coeur d'Alene River. Similar changes are likely to result from any site specific criteria development in the North Fork.

Asarco notes that the draft metals TMDL includes a number of faulty assumptions or calculations. These include 1) indecipherable means of defining the discrete discharges of metals, 2) inappropriate comparisons of a very small adit discharge from

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<sup>1</sup> McCulley, Frick and Gillman, (release date in February, 2001) *Draft Field Sampling and Data Report*.

the Jack Waite mine to a very large adit discharge from the Gem mine, and 3) establishment of waste load allocations that decrease as the creek flow increases.

Asarco notes that the flow tier system provides a substantial margin of safety that DEQ has not discussed, and that the 10% margin of safety imposed by DEQ is not needed. Asarco questions the imposition of a metals TMDL when it is not yet known whether the source reductions will be technically or economically feasible.

Asarco concludes that DEQ should defer promulgation of the metals TMDL. In the event that DEQ does not defer the metals TMDL, then DEQ should instead develop a phased metals TMDL where the first phase does not include defining specific WLAs and the second phase remains to be determined after evaluation of the effects of actions under the first phase. Asarco believes that the phased approach is compatible with DEQ's stated intentions for implementation.

## **II. GENERAL AND SPECIFIC COMMENTS**

### **A. Deferral or phasing of the metals TMDL**

#### **1. DEQ should defer the metals TMDL until completion of the CERCLA initiated removal actions.**

Idaho does not have unlimited resources, so it needs to ensure that those resources are spent wisely. The order of the federal district court for the State of Washington in Idaho Sportsmen's Coalition v. Browner, C93-943-WD (W.D. Wash.), allows the State to reorder its development of TMDLs. The order states,

The sequencing of TMDL development in Idaho's schedule may change as additional information becomes available concerning impacts or potential impacts to beneficial uses within particular subbasins, as resources become available to complete development on TMDLs on a particular subbasin, or as priorities and activities of other state and federal agencies change.

Schedule to Stipulation and Proposed Order on Schedule Required by Court, Idaho Sportsmen's Coalition v. Browner, at 5 n.1 C93-943WD (W.D. Wash. Apr. 9, 1997).

Under the court's order in Idaho Sportsmen's Coalition v. Browner, the State of Idaho has the authority to revise the schedule and order for developing and implementing TMDLs on Section 303(d) listed waters. DEQ should exercise this discretionary authority and defer developing a metals TMDL for the East Fork Eagle Creek and other waters in the North Fork Coeur d'Alene River until the nonpoint sources are addressed initially through CERCLA mechanisms and removal actions are completed. Only then will there be data sufficient to show that the condition requiring a TMDL persists. The sediment TMDL portion of the SBA can stand alone, without the metals TMDL.

## **2. If DEQ does not defer the metals TMDL then it should specifically phase the metals TMDL**

As the metals TMDL implementation is described in the SBA, it appears that DEQ does intend to use a phased approach:

“....Both point and nonpoint sources would be addressed initially through CERCLA mechanisms. Point sources would be addressed with remedial studies and where necessary consent decrees between EPA and the responsible parties. After the consent decree remedy had defined the practical level of treatment and that treatment was installed, the NPDES program will issue permits for these sources. Nonpoint sources will be addressed through removal actions sponsored by the state, EPA or the federal land management agencies, BLM and USFS. A removal action is currently under consideration by the Forest Service at the Paragon Mill site.”

(SBA at Section 3.2.13)

The above wording implies that DEQ will implement the metals TMDL in phases. Although Asarco generally agrees with the intent of this section, Asarco believes that a deferral of the metals TMDL is still necessary. If DEQ does not defer the metals TMDL then the phasing of the metals TMDL must be described in more detail and steps taken to assure that EPA does not override it and prematurely implement the Waste Load Allocations (WLAs) in permits. Specific WLAs should not even be defined in the first phase of the metals TMDL and the metals TMDL should only present the first phase at this time.

Asarco makes this request for the following reasons. DEQ cannot know how much load reduction from point sources will be necessary until DEQ understands the amount of load reduction that can be achieved through cleanup of non-point sources. DEQ cannot at this time predict what a “practical level of treatment” will be for point sources such as the adit from the Jack Waite mine. DEQ cannot at this time evaluate how possible site-specific criteria development might change the metals TMDL. Defining specific WLAs for point sources at this time could “lock in” permit requirements that later would prove to be unnecessary and/or unfounded.

In spite of DEQ’s stated intentions to only impose a practical level of treatment, there is no assurance that the NPDES permit writers will adhere to such an approach. Idaho is not a NPDES delegated state. EPA Region X, not DEQ, writes the NPDES permits. Recent experience has shown that EPA permit writers will impose water quality based effluent limits (“WQBELs”) in NPDES permits to meet waste load allocations that are specified in a TMDL. The metals TMDL in the SBA define specific waste load allocations and EPA permit writers will impose the WLA based limits from the metals



TMDL. EPA permit writers' interpretations of the metals TMDL may well require that WLA based limits beyond the "practical level of treatment" envisioned in the metals TMDL be met within the five year time span covered by an NPDES permit, regardless of DEQ's intentions.<sup>2</sup>

It makes no sense to impose overly stringent load reductions on the types of point sources in the SBA when the possibility exists that the cleanup of non-point sources will obviate the need for such stringent point source load reductions. Similarly it makes no sense to impose such reductions when site-specific criteria development may reduce the amount of reductions required.

As an alternative, DEQ may strongly state that this is a phased metals TMDL emphasizing remedial actions and evaluation in the first phase. DEQ may state that the second phase of the metals TMDL will be developed later based on evaluation of the effects of the actions taken in the first phase and new data. Specific WLAs for point sources should not be included in the first phase, but may be in the second phase if necessary.

### **3. DEQ should defer or phase the metals TMDL to allow development and use of site-specific water quality criteria**

The comments pertaining to site-specific water quality criteria development provided by Asarco regarding the SFCDR TMDL<sup>3</sup> are relevant to the SBA<sup>4</sup>. The terrain and the water in Tributary Creek and the East Fork of Eagle Creek are similar to the area for which site-specific criteria are being developed in the South Fork of the Coeur d'Alene River.

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<sup>2</sup> In implementing a TMDL prepared by DEQ for Paradise Creek, EPA imposed a point source WLA based limit for phosphorous on the City of Moscow with the requirement that they be met within the 5 year span of the permit, even though DEQ provided EPA with a 401 certification that called for a step-wise approach and a longer compliance schedule. In response to comments EPA said they were required to impose the TMDL based limits and they could not go beyond the 5 year term of the NPDES permit to achieve the limits.

<sup>3</sup> See Comment II.A.2 in Asarco's comments on the SFCDR TMDL dated August 13, 1999. DEQ has a copy of those comments.

<sup>4</sup> On motion of the government, the North Fork Coeur d'Alene River has been excluded from the Coeur d'Alene lawsuit involving the U.S. Government claim for natural resource damages and response costs.

It makes no sense to impose stringent load reductions on point sources when elsewhere in a similar basin, the development of site-specific water quality standards for metals provide a strong likelihood that site-specific standards within the North Fork Coeur d'Alene River and/or its tributaries would result in a less stringent requirement.

**4. DEQ should defer or phase the metals TMDL to allow development of sufficient site-specific data**

Inadequacies of the site-specific data are described in the comments under the heading of II.D, (below). Essentially,

- There are inadequate data to characterize adits and non-point sources and it is not appropriate to compare adits in the SBA with the Gem adit because the Gem adit flow is several orders of magnitude greater than the Jack Waite adit. (See discussion at II.D.1, below.)
- Site-specific criteria being developed in the South Fork of the Coeur d'Alene River will have relevance even if the North Fork is a different water body. The ongoing site-specific criteria development in the similar, nearby water body provides a strong basis to believe that site-specific criteria should be developed within the North Fork as well, before developing a metals TMDL. Site specific criteria, when developed, give a different outcome.

**B. DEQ Authority**

**1. Idaho Code § 39-3611 limits controls on point sources**

Asarco believes that the statute is clear. It prohibits Idaho from imposing further restrictions through a TMDL unless the point source contribution of the pollutant of concern is more than 25%:

For water bodies where an applicable water quality standard has not been attained due to impacts that occurred prior to 1972, no further restrictions under a total maximum daily load process shall be placed on a point source discharge unless the point source contribution of a pollutant exceeds twenty-five percent (25% ) of the total load for that pollutant.

I.C. §39-3611. The non-attainment status of the East Fork of Eagle Creek and other affected tributaries in the North Coeur d'Alene River sub-basin pre-dates 1972 and the point source contributions are less than 25%; therefore, DEQ cannot write a TMDL and impose additional restrictions on point sources. DEQ must follow Idaho state law.

**2. The State of Idaho and Idaho DEQ are required to conduct rulemaking under the Idaho APA in order to promulgate TMDLs**

The requirements of Idaho law regarding promulgation of TMDLs by the Idaho DEQ are quite clear. I.C. § 39-3612 states:

**Integration of total maximum daily load processes with other programs.**—Upon completion of total maximum daily load processes as set forth in section 39.3611, Idaho Code, the director shall, subject to the provisions of chapter 52, title 67, Idaho Code, adopt such processes as part of the state's water quality management plan developed pursuant to the federal clean water act. Upon such adoption, the provisions of these processes shall be enforced through normal enforcement practices of designated agencies as set forth in the state's water quality management plan. [I.C., § 39-3612, as added by 1995, ch. 352, § 1, p. 1165.]

The statute is plain on its face that the TMDL processes provided for in IC § 39-3611 must be "adopted" pursuant to the Idaho APA. A complete discussion of this issue is contained in briefing supporting a challenge to the IDEQ/EPA promulgation of the TMDL for listed stream segments in the Coeur d'Alene basin on August 14, 2000. That briefing is available to IDEQ.

**C. Loading Allocation**

**1. There should be a greater emphasis that this is a phased TMDL.**

The North Fork of the Coeur d'Alene River is clearly a situation where it is most appropriate to have no metals TMDL or to develop a phased metals TMDL. A phased TMDL is appropriate when there is much uncertainty. A phased metals TMDL would focus on CERCLA mechanisms, particularly removal actions that will first address the non-point loadings. To the extent that CERCLA actions lead to reasonable or feasible actions on some point sources, such actions may also occur in the first phase. However, the first phase of the TMDL should not be the regulatory mechanism to impose requirements for point source controls.

The phased approach allows the development of additional data to better document the conditions as they improve and also allows time for the development of site-specific metals standards if that appears necessary. A phased metals TMDL should emphasize that as removal actions occur and new data become available that the data will be reviewed to evaluate trends, and the possible need for any additional actions. Additional actions, including specifying any WLAs for point sources would be developed, if needed, in the second phase of the metals TMDL. The first phase of the metals TMDL should not derive specific metals WLAs because data are insufficient and because EPA permit writers will implement WLAs within a single 5 year permit cycle, contrary to DEQ's intent.

Note that these recommendations appear to agree with section 3.2.13 of the SBA. See Asarco comment II.A.2 for additional discussion.

**2. The calculation of Discrete Discharges of Metals is indecipherable and erroneous.**

Section 2.3.2.2.1.5 of the SBA states that

“[t]he point discharges of metals cadmium, lead and zinc are listed in Table 8. Based on estimates discharge weighted for seasonal flow (Appendix A), the daily load of each source is calculated.”

The wording is unclear.

The same section says that the discharge patterns of these adits are assumed to be similar to that of the Gem adit.<sup>5</sup> Details on the Gem adit discharges are included in Appendix A of the SBA. There is only one flow observation of 0.091 cfs for the Jack Waite adit presented in the SBA Appendix A and it is three orders of magnitude lower than the Gem adit. Additional data obtained by McCulley, Frick and Gilman include observations of adit flow of 0.129 and 0.19 cfs in the fall and 1.8 cfs in the Spring, indicating an order of magnitude seasonal range, a much greater percent change between seasons than exists for the Gem adit. The Gem adit should not be used for any purposes of estimation for the Jack Waite adit.

Section 2.3.2.2.1.5 includes Table 8 showing discrete metals discharges for various point sources (including the Jack Waite adit) and also includes tables showing the contributions of those sources to the various creeks under the different flow tiers. The SBA apparently used mean metal concentrations for the creek for flow tiers and a single value for the Jack Waite adit (perhaps adjusted somehow by variability with the Gem adit data) in order to compute percentages attributable to the Jack Waite adit. The method appears to lead to illogical results, as explained below (see Comment II.C.3 below). The methodology is not well illustrated, not documented and appears to result in inappropriate

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<sup>5</sup> Note that it is not at all evident in the SBA or its Appendix A as to just how this assumption of comparability to the Gem adit is used. There really is no basis for comparison, but nevertheless, the Gem adit flow data show a certain variability. For Jack Waite there is only a single observation of flow. No information is provided as to whether that flow is made to vary like the flow from Gem adit, or vary in any other way for purposes of the calculations.

conclusions. Asarco can identify these errors but due to the data limitations Asarco finds that it is not possible to identify what the corrections should be. The SBA needs much more data and analyses. Clearly the metals TMDL is premature and based on inadequate data.

**3. The waste load allocations should not decrease as creek flows increase.**

Section 3.2.11 of the SBA provides the following waste load allocation for the Jack Waite Adit.

	7Q10-10%	10%-50%	50%-60%	>90%
Cd (lb/da)	0.006	0.003	0.001	0.001
Pb (lb/da)	0.0004	0.0001	0.00006	0.00007
Zn (lb/da)	0.231	0.147	0.085	0.088

These waste load allocations actually **decrease** as the creek flow **increases**. Such an approach appears to be illogical because the assimilative capacity of the creek increases with flow. This is probably the result of the combination of inappropriate methods used in the metals TMDL, including trying to compare adits in the SBA to the Gem adit and making judgements based on an inadequate data base (one adit measurement in the case of Jack Waite). Without a more detailed explanation of how these calculations were performed, it is not possible for the public to accurately assess the validity of the methods or the results.

The above waste load allocation is in pounds per day. Using the assumptions of from the metals TMDL, the mass loads equate to the following concentration limits.

	7Q10-10%	10%-50%	50%-60%	>90%
Cd (ug/l)	12.28	6.14	2.05	2.05
Pb (ug/l)	0.82	0.20	0.12	0.14
Zn (ug/l)	472.6	300.75	173.90	180.04

As with the pounds per day allocation, the concentration equivalents show limits that decrease with increasing stream flow. This makes no sense. As noted earlier, the Jack Waite adit is a significant contributor of hardness to Tributary Creek. Two hardness observations of the adit discharge were obtained by McCulley, Frick and Gilman in low flow conditions and these were 318 and 378 mg/l. McCulley, Frick and Gilman obtained one hardness observation of 147 mg/l in high flow conditions. Some of the above limits are set lower than the water quality standards for the adit's hardness. This is unnecessary.

**4. Lead should be deleted from the TMDL for the East Fork of Eagle Creek.**

Within the East Fork of Eagle Creek lead could be deleted from the metals TMDL. Measures implemented to address zinc will achieve improvements for lead as well. As such, zinc would be a surrogate for lead. The lead data include non-detect values. DEQ in turn used half the detection limit in their evaluations. The lead data for the East Fork of Eagle Creek considered dissolved values, but the description of the loadings from the limited point source data used total. Table 9(b) in section 2.3.2.2.1.5 of the SBA illustrate a trivial percent contribution of lead from the point discharge to the East Fork of Eagle Creek.

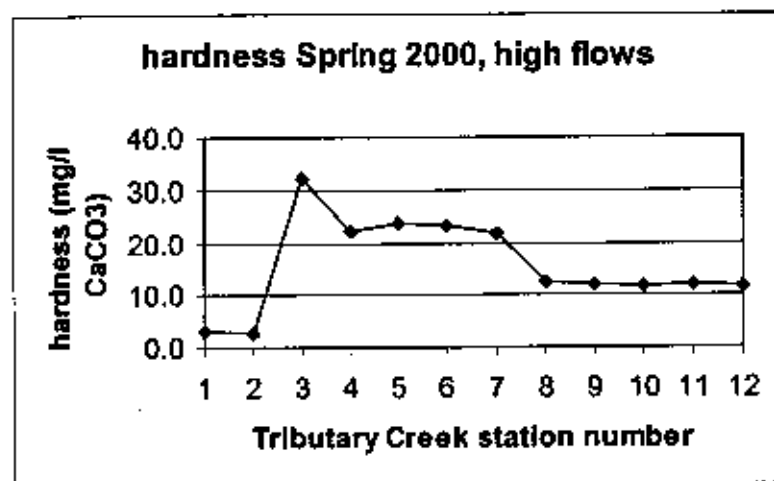
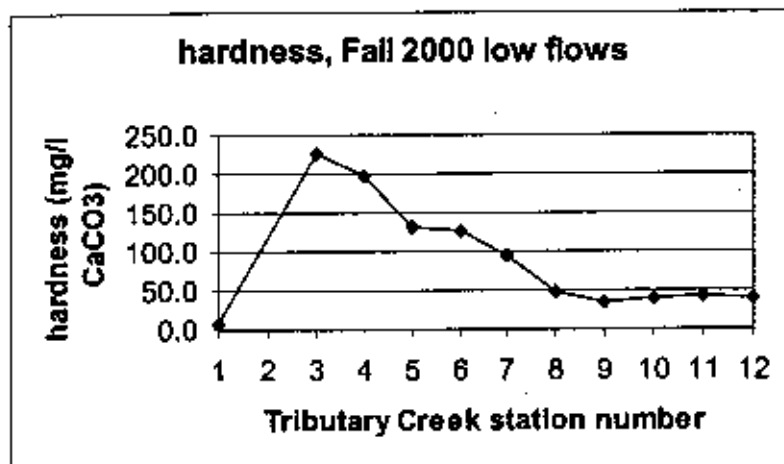
**5. Dissolved to Total Recoverable metals ratios should be incorporated into the metals TMDL.**

Data collected by McCulley, Frick and Gilman for Tributary Creek illustrate that there are differences between the dissolved and total recoverable metals. The metals TMDL should evaluate and utilize appropriate ratios, specific to the different flow tiers, and possibly even specific to the location and gradient in the basin. Hence, additional data will still need to be collected before a final metals TMDL should be developed, in order to implement metals standards consistent with their dissolved basis. Note that this is one manner of making an easy site-specific adjustment to the water quality standards. Other methods should also be considered.

**6. Within Tributary Creek the hardness from adit and seep flows add to the loading capacity**

The metals TMDL in the SBA fails to consider the hardness of drainage from adits or seeps. Although the hardness for the East Fork of Eagle Creek does appear to be consistently below 25 mg/l, the same is not true for Tributary Creek nor the adit or seep drainages to Tributary Creek.

As was recognized in Washington State's Spokane River TMDL and incorporated into the SFCDA TMDL (for some but not all point sources), the hardness contribution from a discharge is a beneficial factor to consider when evaluating assimilative capacity and the effects of a source. Because of hardness added to Tributary Creek, the hardness assumptions used in the SBA are not applicable within Tributary Creek. The TMDL needs to recognize this difference. McCulley, Frick and Gilman has collected hardness data for Tributary Creek for the Fall of 1999, the Spring of 2000 and the Fall of 2000. These data will be provided to DEQ in February in a Draft Field Sampling and Data Report. The following figures illustrate the hardness differences for the Spring and Fall of 2000 for Tributary Creek. Station 1 is in the headwaters upstream of the Jack Waite adit. Station 12 is near the mouth just before the Creek joins the East Fork of Eagle Creek. Upstream of the Jack Waite adit the water in Tributary Creek is soft regardless of the flow. The Jack Waite adit is a very significant source of hardness to Tributary Creek.



**7. Within Tributary Creek there is an inverse relationship between flow and hardness**

The inverse relationship results from the fact that ground water or adit and seep flows contribute different percentages of the total stream flow during low flow times than high flow times. It is also noteworthy that upstream from the Jack Waite adit, the stream has very low hardness regardless of high or low flow. The inverse relationship between hardness and flow for Tributary Creek as well as the low hardness upstream of the adit are evident in the above figures.

**D. Adequacy of Technical Information**

The SBA acknowledges the scarcity of data.

“Data from which the problem assessment and TMDL for the North Fork Coeur d’Alene sub-basin were developed are few in number. As more exact measurements are developed during implementation plan development or subsequent to its development these will be added to a revised TMDL as required.”

(SBA Section 3.2.14)

This admission applies to stream flow characterization, adit characterization, hardness characterization, and the likelihood that site-specific criteria could be developed that would be significantly different.

Such an acknowledgment further supports the need to not adopt a metals TMDL at this time or to use a phased metals TMDL with no WLAs determined in the first phase. The material presented in the SBA will be useful as a starting point for evaluating water quality after remedial actions have been implemented and data collected to evaluate their effectiveness. At that point, the necessity of a metals TMDL can be re-evaluated and one may be developed based on a much more adequate data base.

**1. The TMDL’s assessment of point sources is inadequate**

For example, a single data point was all that was available for the Jack Waite adit. The same is true for many of the other adits. Somehow that was then compared to more data points for metals in the East Fork of Eagle Creek and different flows and was a factor in the derivation of point source waste load allocations that decrease as the stream flows increase. The inadequate data contributes to an illogical allocation.

**2. Biological monitoring can be used to establish ecological goals for the Basin.**

Asarco supports the use of biological assessment as the means for evaluating the improvements in the sediment TMDL. The same methods implemented under the sediment TMDL will prove useful if incorporated into a phased metals TMDL. Site-specific criteria development may also relate to biological evaluations. In some tributaries with waterfalls that block fish passage, biological assessments might determine that fish can not even get there and this has relevance to site-specific criteria.

**3. Site-specific metals criteria will result in a technically superior TMDL.**

Based on the ongoing development of site-specific criteria in the South Fork Coeur d’Alene system, site specific criteria development for zinc and lead are likely to



produce higher site specific metals criteria within the SBA. Site-specific criteria will be more relevant and are critical to any metals TMDL.

**E. Margin of Safety**

- 1. By using the EPA developed metals criteria, DEQ already has sufficient margin of safety.**

The development of site-specific criteria in the South Fork of the Coeur d'Alene River illustrate that some of EPA's criteria are more stringent than necessary and therefore provide a sizeable, unaccounted for margin of safety. No margin of safety is needed in the metals TMDL when using EPA's criteria. A margin of safety might be needed when using site-specific criteria. The margin of safety inherent in the flow tier methodology is more than sufficient.

- 2. The flow tier approach provides a margin of safety not acknowledged in the TMDL.**

While it is more appropriate to use flow tiers than to simply establish a single allocation for a worst case flow, it is important to realize that whenever flow tiers are limited in number (as opposed to having separate TMDL allocations for each and every flow), then a significant margin of safety evolves. This margin of safety is associated with the range of flows incorporated into each tier. Essentially, the allocations for each tier are based on the loading capacity for the bottom flow value in each tier. Without any other margin of safety applied, this would mean that there is no margin of safety only when the flow was exactly equal to the bottom flow in the range, and there is a very substantial margin of safety when the flow was just below the flow that marks the top of the range. For example, when the flow in the East Fork of Eagle Creek is 21 cfs, it is more than twice the 10th percentile flow of 10.4 cfs and the Creek could accept twice the allowed loading and still meet the standards. When the flow is 100 cfs the Creek could accept four times the loading for the 50th percentile flow and still meet the standards. The margin of safety inherent in the flow tiering is quite extreme and there is no need for additional margins of safety. If the metals TMDL retains the 10% margin of safety, then additional flow tiers should be included to reduce the excessive margin of safety with the present tiers.

**F. Technical and Economic Feasibility**

- 1. DEQ should not impose a metals TMDL without knowing whether the source reductions will be technically or economically feasible.**

Asarco recognizes that Section 3.2.13 considers that practical levels of treatment would be defined and installed for point sources. "Practical" actually implies some determination of technical or economical feasibility. However DEQ has no idea what these requirements will be, nor whether such undefined "practical" levels of treatment

will be able to meet water quality based limits implicit in any TMDL assigned waste load allocations. Asarco is concerned that once waste load allocations are described, EPA may view them as water quality based effluent limits to be imposed regardless of technical or economic feasibility.

## **G. Editorial Corrections**

Table of Contents Appendix A. spelling error

Second paragraph in section 2.2.1. remove “(“ before “303(d)”. A citation to IDEQ 1996b is made but no such document is listed in the references.

Figures 1 and 4. These figures should identify the compliance points that form the basis of the TMDL. From the text it isn’t clear.

Third paragraph in section 2.2.3. Change “criterium” to “criterion” or “criteria”

Second paragraph in section 2.3.1. A citation to DEQ 1999a is made but no such document is listed in the references.

First paragraph in section 2.3.2.2.1.2. Change “90thb” to “90th”

First paragraph and Table 7 in section 2.3.2.2.1.4. It represents that the data cover four flow tiers. However, it actually covers five tiers since some of the data were for flows that were less than the 7Q10. Table 7 has some computational errors as well for Eagle Creek. The footnote to Table 7 needs a space between “lead” and “and”.

First paragraph in section 2.3.2.2.1.5. The first sentence makes no sense.

Tables 14a, 14b, 14c, 14d and 14e in section 2.3.2.5.1. These tables include rows for projected CWE scores and calculated CWE scores. All the values presented are identical, which makes no sense.

The first table in Appendix A. This table is not suitable for inclusion in the assessment. The contents of some fields exceeded the size and consequently were replaced by Excel with “#####”. The data in the table include some metals concentrations that are negative, with no explanation. Column headings do not carry over to all pages, making it very difficult to read.

Section 3.2.11.1. This section refers to Beaver Creek when it should refer to East Fork of Eagle Creek. The WLA values for cadmium and lead for the 90th percentile flow in Table 9 are incorrect based on the methods used in the TMDL. The WLA values also make no sense (as a result of the method used) because they decrease as the stream flow increases. (Similar concerns exist for the metals TMDLs for the other creeks.)

Section 3.2.12.2. The word "associates" should be "associated".

## CONCLUSION

For the reasons set forth in these comments, DEQ should defer promulgation of the metals TMDL for the East Fork of Eagle Creek and possibly the other tributaries within the North Fork of the Couer d'Alene River basin.

If DEQ proceeds with the metals TMDL notwithstanding all of the compelling reasons for deferral, DEQ should clearly state that the metals TMDL will be a phased one, and the first phase should not identify any waste load allocations for point sources. Phase one will address both point and nonpoint sources only through CERCLA mechanisms emphasizing primarily removal actions for the nonpoint sources. Point sources would only be addressed through CERCLA mechanisms in phase one if a practical level of treatment is determined. Phase one will also include requirements to obtain more data and to evaluate changes resulting from the phase one actions. The evaluations during and following completion of the removal actions will help to determine if site-specific criteria need to be developed and ultimately will fill the gaps in understanding necessary to develop the second phase of the metals TMDL.

Either deferral of the metals TMDL or explicitly phasing of the metals TMDL is necessary in order to prevent a premature application of waste load allocations to point sources. Possibly the remedial actions to correct nonpoint source contributions, site-specific criteria development and some practical level of treatment for point sources will individually or in combination be sufficient to restore the affected creeks in the North Fork of the Coeur d'Alene River. Time is needed to implement these and assess their effects.

May 23, 2001

Michael K. Branstetter  
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Osburn ID 83849

Dear Mr. Branstetter:

Thank you for the comment provided on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs). A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: Mr. Branstetter supplies comments made by ASARCO and notes these comments apply equally to Beaver Creek.

Response 1: Several of the comments and the responses to those comments are applicable to the Beaver Creek metals TMDL. The response to ASARCO's letter of comment is attached.

Comment 2: The state is engaged in illegal rulemaking without following the proper procedures. The TMDL and subsidiary discharge limits are of no legal force or effect and cannot be applied to Beaver Creek or the North Fork Coeur d'Alene River Sub-basin.

Response 2: TMDLs are plans for the restoration of water bodies to the level of the water quality standards. Since they are plans, they do not have regulatory authority and are not required to follow the APA process. TMDLs are implemented at the state and federal level through regulatory programs. State regulatory programs and their component regulations must follow the APA process prior to promulgation.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator

Enclosure

May 23, 2001

ASARCO  
c/o Timothy Butler  
Heller Ehrman  
701 Fifth Avenue Suite 6100  
Seattle WA 98104-7098

Dr. Mr. Butler:

Thank you for the comment provided by ASARCO on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs). A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made by ASARCO as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: DEQ should defer the metals TMDL until completion of the CERCLA initiated removal actions.

Response 1: The TMDL process is related to but independent of the CERCLA process. Its relationship is that it develops the water quality applicable or relevant and appropriate regulatory requirements (ARARs) for the site more fully by translating the water quality standards into daily permissible loads dependent on the season. The situation in the East Fork Eagle Creek is straightforward. The Jack Waite adit is the only discrete source while the Jack Waite mill complex, tailings ponds and tailings washed downstream are the nonpoint sources. Since the TMDL provides a plan to respond to meet water quality standards it is appropriate that the East Fork Eagle Creek TMDL proceeds any CERCLA consent decrees.

Comment 2: If DEQ does not defer the TMDL then it should specifically phase the metals TMDL. Concern is stated that EPA will override the phasing of the TMDL implementation.

Response 2: The term phasing is not defined, however, EPA does not accept the phasing of TMDLs. This fact stated; TMDLs can be renewed and incorporate new data at any time. Should there be a shift in metals standards for the water body, or important new data became available a new TMDL would be required to reflect this new data. Although not phasing, this is renewal.

Comment 3: DEQ should defer or phase the metals TMDL to allow development and use of site-specific water quality criteria.

Response 3: Site specific criteria for lead and zinc have been developed for the reach of the South Fork Coeur d'Alene River above Wallace. Work has been completed to extend these results to the metals contaminated segments of the South Fork Watershed below Wallace. A justification of this is in preparation. No plans have been developed to do the studies necessary to extend these results to the Beaver and Prichard Creek watersheds. Such work if undertaken may extend well past 2003 the due date of these

ASARCO c/o Timothy Butler  
May 23, 2001  
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TMDLs. When and if the site specific standards were extended to the Prichard Creek watershed the current TMDLs would be revised to reflect the current (new) metals standards.

Comment 4: DEQ should defer or phase the metals TMDL to allow development of sufficient site specific data.

Response 4: See response to ASARCO, comment 3.

Comment 5: Idaho code section 39:3611 limits controls on point discharges.

Response 5: The limitations on point source controls in 39-3611 are not applicable under either state or federal law to this TMDL for the following reasons: Idaho code section 39-3611 limits controls on point source discharges when these are less than 25% of the metals loads. The sub-basin assessment (SBA) on page 16 clearly demonstrates that the single point discharge (Jack Waite Adit) is 50% of the cadmium under 7Q10 discharge conditions. In addition, 39-3611 applies to water bodies where the applicable water quality standard has not been met due to impacts that occurred prior to 1972. While there were significant impacts to the NRCDA river that occurred prior to 1972, there are also continuing and post-1972 discharges that have contributed and continue to contribute to the non-attainment of state water quality standards. Moreover, under both state and federal law, the TMDL must meet requirements of the Clean Water Act. See Idaho Code sections 39-3601 ("It is the intent of the legislature that the state of Idaho fully meet the goals and requirements of the federal clean water act.."); 39-3611 ("For water bodies described in section 39-3609, Idaho Code, the director shall...as required by the federal clean water act, develop a total maximum daily load..."). A TMDL that does not call for point source reductions would not meet the requirements of the Clean Water Act because the TMDL could not assure compliance with state water quality standards.

Comment 6: The State of Idaho and Idaho DEQ are required to conduct rulemaking under the Idaho APA in order to promulgate TMDLs.

Response 6: TMDLs are plans for the restoration of water bodies to the level of the water quality standards. Idaho Code section 39-3602 ("Total maximum daily load (TMDL) means a plan for a water body not fully supporting designated beneficial uses...") TMDLs do not have the force and effect of law and are not required to follow the APA rule-making process.

Idaho Code section 39-3611 addresses the development of TMDLs and requires TMDLs be developed in accordance with those sections of law that provide for involvement of BAGs and WAGs, and as required by the federal Clean Water Act. There is no requirement in this section that the TMDL be developed as a rule.

Idaho Code section 39-3612, on the other hand, addresses the integration of TMDLs, once completed, with other water quality related programs and provides that this integration is subject to the provisions of the Idaho Administrative Procedures Act. Thus, to the extent required by the IDAPA, DEQ, and other designated agencies, must follow the IDAPA provisions when TMDLs are implemented and enforced under applicable state programs.

Given the scope of the TMDL program and requirements of the court-approved schedule for development of TMDLs, it is clear the IDAPA rulemaking provisions are not applicable. The schedule for development of TMDLs in Idaho is the product of federal court litigation. According to the TMDL schedule, from 1997 to 1999, DEQ was to develop 529 TMDLs. Under the IDAPA, rules must be approved by the legislature before they become effective. Because of this and other rulemaking requirements, rules typically take almost a year to promulgate. Idaho Code section 39-3601 et seq was enacted in response to this federal

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TMDL litigation and the legislature certainly never intended DEQ to attempt to promulgate hundreds of required TMDLs as rules.

The federal APA does not require EPA adopt TMDLs as rules. Moreover, given the short deadlines in section 303d of the CWA, including the requirement that TMDLs be developed within 30 days of EPA disapproval of a state TMDL, the CWA clearly does not envision or require TMDLs be developed as rules.

Comment 7: There should be greater emphasis that this is a phased TMDL.

Response 7: See response to ASARCO comment 2. The TMDL is not phased and would not be approved by EPA as a phased TMDL. However, any TMDL is open to revision based on new information.

Comment 8: The calculation of discrete discharges of metals is indecipherable and erroneous.

Response 8: The calculation is difficult to follow. This was remedied in the revised SBA in the text and in Appendix A. We respectfully disagree that it is erroneous. The calculation of the adit discharge of metals was made more understandable in the text and Appendix A.

Comment 9: The waste load allocations should not decrease as creek flows increase. Hardness data provided.

Response 9: The waste load allocations decrease because the percentage of the load that is attributable to discrete discharges decreases as the discharge increases. This is a major difference between the Coeur d'Alene basin Metals TMDL and these North Fork metals TMDLs. The Coeur d'Alene Basin document gave the discrete sources a 25% allocation based on the mixing rule in the Idaho Water Quality Standards and Wastewater Treatment requirements. The North Fork TMDL calculates the discrete load based on adit discharges and synthetic hydrographs based on the Gem Adit discharge. The percentage discrete load is calculated by dividing the discrete load by the measured load at each flow tier.

The hardness data provided clearly indicates that the adit adds hardness to the stream. This hardness effect is diluted even in Tributary Creek and likely is very small at the point of compliance near the mouth of the East Fork Eagle Creek. The metals are detected at the point of compliance in the loads measured and at hardness levels all below 25mg calcium carbonate. Thus the hardness data is not applicable to the point of compliance.

Comment 10: Lead should be deleted from the TMDL for the East Fork Eagle Creek. Use of one-half detection for non-detection increases a load that is trivial.

Response 10: It is standard method to consider non-detection as one half of detection. However, we agree this approach may create a lead load where arguably none exists. The database was searched for detection of lead above the state standards. Exceedence occurred in eleven of thirteen samples. Use of one-half detection in the two cases is warranted.

Comment 11: Dissolved to total recoverable metals ratios should be incorporated into the metals TMDL.

Response 11: The state standards state the cadmium, lead and zinc standards in terms of dissolved cadmium, lead and zinc. These ratios are important translators for point discharges since these permits are based on total recoverable levels. The database is not sufficient to develop such translators where they are appropriate at the adit discharge. These will be developed as the adit discharge is better characterized in the CERCLA consent decree and NPDES programs that will implement the TMDL.

Comment 12: Within Tributary Creek the hardness from adit and seep flows add to the loading capacity.

ASARCO c/o Timothy Butler  
May 23, 2001  
Page 4.

Response 12: See response to part 2 of ASARCO comment 9. The hardness from the adit and seeps discharged to Tributary Creek is not detectable at the point of compliance, while the metals are. The hardness must be diluted from the stream system.

Comment 13: The TMDL's assessment of point sources is inadequate.

Response 13: The assessment of the adit discharges is based on the database developed for the EPA remedial investigation. These were developed originally by the Idaho Geologic Survey (University of Idaho) for the US Forest Service. At the time it was the best available data. Additional data on the discharge and metals characterization of the Jack Waite Adit was supplied to DEQ by ASARCO's consultants. It was incorporated into the SBA and East Fork Eagle TMDL.

Comment 14: Biological monitoring can be used to establish ecological goals for the basin.

Response 14: Biological goals are appropriate for pollutants as sediment. In these cases narrative standards govern the amount of sediment and these standards are tied directly to the full support of the beneficial use. Metals are governed by numeric standards that assume full support of the beneficial use. In the case of metals the numeric standards must be attained.

Comment 15: Site specific metals criteria will result in a technically superior TMDL.

Response 15: This may or may not be true. However, at this time and for the foreseeable future (next two years) the current state metals standards are expected to be the governing standards.

Comment 16: By using the EPA developed metals criteria, DEQ already has sufficient margin of safety.

Response 16: Although conservative, the metals standards are not deemed by DEQ or EPA to eligible as a component of a TMDL's margin of safety.

Comment 17: The flow tier approach provides a margin of safety not acknowledged in the TMDL.

Response 17: The flow tier approach accounts for the seasonal stream discharge and is not a margin of safety factor.

Comment 18: DEQ should not impose metals TMDLs without knowing whether the source reductions will be technically or economically feasible.

Response 18: TMDLs are required by federal law and in Idaho's case a court order. These planning documents must be developed and issued by DEQ and EPA to meet the agencies' legal responsibilities. Should the source reductions not be technically or economically feasible, such that the TMDL cannot be met, the Clean Water Act contains mechanisms such as use attainability and standards changes to address such situations should these arise.



ASARCO c/o Timothy Butler  
May 23, 2001  
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Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator

January 16, 2001

Liz Sedler  
Alliance for the Wild Rockies  
The Lands Council  
PO Box 1203  
Sandpoint, ID 83864

RECEIVED

JAN 23 2001

IDHW-DE  
Coeur d'Alene Fish

Geoff Harvey  
DEQ Coeur d'Alene Regional Office  
2110 Ironwood Parkway, Suite 100  
Coeur d'Alene, ID 83814-2648

RE: Comments on Draft Sub-Basin Assessment and TMDL for the North Fork Coeur d'Alene River

Dear Geoff,

I am submitting these comments on behalf of the Alliance for the Wild Rockies ("AWR"), a regional non-profit conservation organization with it's main office in Missoula, MT and The Lands Council ("TLC"), also a regional non-profit organization, based in Spokane. Both groups and their members have a keen interest in implementation of the Clean Water Act and the restoration of water quality in Idaho. We appreciate the effort that went into pulling together the Draft Sub-Basin Assessment ("SBA") and TMDL for the North Fork Coeur d'Alene River ("NF") and its tributaries.

The Draft Sub-basin Assessment

The SBA estimates that sediment being delivered to the NF Coeur d'Alene and its tributaries has increased 131.9% over natural (from 13,094.3 tons/yr to 30,369.7). We wonder about the accuracy of the estimates due to their heavy reliance on sediment models and the extrapolation of sediment load estimates from distant watersheds. It is unfortunate that so little sediment delivery data has been collected in the NF. The estimate of background sediment production is based on the coefficient for forest land sediment yield rate in the USFS WATBAL model. Has the WATBAL ever been re-calibrated or validated? Neither it nor the WATSED are considered able to provide accurate estimates of sediment loading from roads and openings.

According the SBA, the North Fork and most of its tributaries suffer from extreme streambed instability and bedload movement, resulting in low residual pool volumes, which the SBA ties to low salmonid densities in most of the drainage (SBA at 17 - 21). In fact bedload movement is the major problem in the NF and its tributaries according to the SBA, "...available water quality data clearly indicates that stream bed instability [i.e., hydrologic modification] is at the root of the water quality limitation." The SBA also ties timber harvest and roads to adverse hydrologic modification, stating that logging and roads "can cause imbalance over significant periods." (SBA at 43)

It is a hydrological fact that high levels, e.g. destructive of pool and other habitat components, of bedload movement are directly due to more frequent and higher than natural peak flows. A direct correlation has been established between higher, more frequent flood events and increased canopy removal and road densities within watersheds.

The Vegetation Alteration sub-section explains in some detail how canopy removal causes higher and/or desynchronized water yields within a watershed. (Id.) The conclusion regarding the NF however, is that in spite of 15.5% of the drainage (88,840 acres) being in functional openings as a result of timber harvest, "it is unlikely that vegetation alteration itself is contributing significantly to hydrologic modification." (SBA at 44) This is based on a Forest Service guesstimate that historical, pre-human intrusion fires caused an average of 18% (and as high as 36%) of the NF drainage to be in openings.

What the SBA (and the Forest Service) fail to consider is that clearcuts cannot be equated to natural openings caused by wildfire. Except for somewhat rare stand replacing fires, most forest fires tend to burn in a mosaic pattern creating small rather than large openings. The presence of standing and down fire killed timber after a fire prevents soil erosion as well as the extreme hydrologic changes that occur as a result of mechanical removal of virtually all vegetation in large areas, e.g. clearcutting with its associated road building and soil disturbance. There is ample scientific literature that compares the detrimental impacts of canopy removal through logging with the lesser impacts of natural fire. We disagree with the assumption that the impacts on water quality of canopy loss resulting from fire under natural conditions are equal to canopy loss from logging.

The Extended Stream Channel Network sub-section explains how roads contribute to increased water yields/peak flows. Basically the discharge rate is greatly increased by the more efficient channeling of water flowing through the system via roads and ditches. The SBA acknowledges that the road system in the NF is "extensive and intensive". Indeed Tables 14a-g indicate that some sub-watersheds in the NF have extraordinarily high road densities. For example the watersheds draining to the Middle North Fork have road densities as high as 8.1, 9.2 and 9.4 mi/sq.mi. (Table 14c)

The SBA also explains, in Rain on Snow Response, how and why rain on snow discharge events result in increased peak flows and acknowledges that the NF is very susceptible to these events. It also acknowledges that rain on snow events exacerbate the increase in peak flows caused by roads. The SBA should also acknowledge that the potential for rain on snow events is driven by the amount of openings in a watershed as well as elevation and climate. The higher the percent of openings, the higher the potential for increased peak flows resulting from rain on snow events.

In the Summary the role of vegetation alteration/loss of canopy removal is again downplayed: "[a]lthough vegetation alteration possibly has some transient effect on the hydrology, it is probably small and temporary." (SBA at 45) We disagree. Clearly the loss

of canopy due to extensive logging has been a major factor in increasing peak flows, which in turn have caused the destabilization of channels in the NF.

Under **Pollution Control Strategy** the SBA states that the "key to breaking the cycle of bedload delivery and channel instability... is removal of roads from flood plains and rehabilitation of the road crossings and approaches which deliver excess water and sediment to the streams." (SBA at 48) Removal of roads in the flood plain would be a positive benefit to the water quality and would help restore damaged habitat, as would rehabilitation of stream crossings. However, it would not address the major problems in the NF caused by excessive, unnaturally high peak flows.

A distinction needs to be made between sediment delivery to streams (from roads, stream crossings, stream banks and mass failures) and channel instability which is the movement of instream bedload sediment, e.g., the cobble and boulders that comprise the existing geomorphologic structure of the river/stream bottom. The way to reverse the trend toward disequilibrium in the drainage, of which channel instability is a symptom, is to lower road densities where they are excessive, avoid further canopy removal for the time being, and allow the canopy to re-establish in current openings.

While the pollution control strategy does "not taking a position either for or against the harvest of timber," the suggested solution certainly would not lead to any reduction of future logging. Citing a lack of available funding as a major stumbling block to watershed restoration, the proposed solution is to require pollution credits when new roads and stream crossings are needed to access timber. The timber industry could earn credits by agreeing to do some unspecified amount of road and stream crossing rehabilitation. Theoretically the reduction of impacts due to stream crossing rehabilitation would outweigh the impacts of new construction. Eventually the huge backlog of restoration projects in the NF that the Forest Service is unable to find funding for would be completed, assuming the pollution credit program continuously fixed more problems than it created.

#### The Draft TMDL

The Draft TMDL proposes to reduce sediment delivery from roads, stream crossings, etc., which will help reduce the impacts of fine sediment on fish habitat. However, the major problem of channel instability and bedload movement due to increased peak flows is not addressed. While we understand that DEQ "does not recognize flow and habitat alteration as quantifiable and therefore allocatable parameters" (SBA at 46), the SBA has clearly placed the massive amount of bedload being moved in the NF system in the category of sediment, and identified it as the major problem in the drainage: "the sediment interfering with the beneficial use (cold water biota) is most likely large bedload particles" (Draft TMDL at 4). Therefore the TMDL should deal with it. In the absence of measures to reduce (and prevent further) increases in peak flows in the NF, channel and bedload instability problems will continue to impair beneficial uses.

**Loading Capacity.** The determination of the appropriate loading capacity (or load allocation) is based on several assumptions that raise concerns.

1) The statement, "natural background levels are assumed to be fully supportive of beneficial uses..." is based on a logical deduction, i.e., that prior to development the beneficial uses were undoubtedly fully supported/not impaired. However, the possibly erroneous assumption underlying the determination of loading capacity is that the background and current levels of sediment delivery have been accurately calculated. (See concerns with the accuracy of sediment load estimates above.

2) The statement that "sedimentation levels below 80% [above] background are likely to support water quality standards" is based on the SBA's conclusions concerning the level of sediment reduction necessary to fully support beneficial uses. The SBA refers to the Washington State Forest Practices Board conclusion that, "[s]ediment rates in excess of 100% of natural sedimentation are likely sufficiently high to exceed water quality standards (WA Forest Practices Board, 1995)." (SBA at 42) We feel that it requires quite a leap of faith to extrapolate this conclusion to Idaho watershed problems and Idaho water quality standards.

The next two statements, 3) "the stream system has some finite yet unquantified ability to process (attenuate through export and/or deposition) a sedimentation rate greater than background rates" and 4) "the beneficial uses ... will be fully supported when the finite yet unquantified ability of the stream to process sediment is met," raise the question of how will this "finite ability to process sediment" will be determined.

DEQ has arrived at an interim sediment TMDL goal of 50% above background (which presumably includes the margin of safety required by the Clean Water Act, since one of the assumptions in the pollution control strategy is that sediment levels below 80% over natural are likely to support water quality standards). The 50% level is supported by the 42.8% above background sedimentation rate in the upper NF where the reference streams are located. This raises two questions. Why not set the interim goal at 43%? And what were the criteria for reference streams?

In any case, the interim goal "will be replaced by the final sediment goal, when the final criteria for full support of cold water biota and salmonid spawning... are met." (Id.)

The sub-section, *Appropriate measurements of Full beneficial Use Support* lists four criteria for determining full support of cold water biota: 1) "three or more age classes of trout with one young of year", which has been DEQ's standard criteria for determining full support for salmonid spawning ("SS") in the listing process. (We assume this was intended as a criteria for SS rather than cold water biota?) As we have repeatedly pointed out in previous comments on the adequacy of the WBAG process relative to generating 303(d) lists (which we hereby incorporate by reference), it is totally inadequate as a criteria for determining whether SS is fully supported.

2) the trout density level criteria (0.1 -0.3 fish/yd<sup>2</sup>) is based on "reference" streams within the NF drainage. Again we ask what criteria were used to select reference streams. The information presented in the SBA is not sufficient to confirm that the choice of reference streams was scientifically based and therefore appropriate.

3) Please explain why sculpin and tailed frogs are key indicators that cold water biota is fully supported.

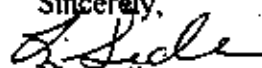
4) The Macro invertebrate Biotic Index score of 3.5 was of course the primary and often sole criteria used to determine full support of cold water biota for the 1998 303(d) listing process. Many streams were eliminated from the list based on this as a sole criteria. As discussed in previous comments on the WBAG, etc., we don't believe that it is scientifically defensible as a single or major criteria for determining full support. Granted, in this case it is applied in combination with other criteria, but unfortunately the other criteria are also questionable and the combination as a whole is inadequate.

The *Monitoring Provisions* describe the timeline for collecting data based on the above listed criteria and concluding whether the beneficial uses are fully supported. A total of 5% of the watershed would theoretically be monitored over 5 years. The assumption, according to *Feedback Provisions*, is that if the 5 year/5% monitoring database indicates that the criteria are being met, further efforts to reduce sediment loading in the watershed will not be required. The sediment load allocation would be frozen at whatever reduction in sediment loading had been reached at that point. One assumes that the reduction in sediment load at the point of full support would be calculated by the same methodology (modeling, etc.) that generated it to begin with. Monitoring would continue to make sure the beneficial uses continued to be fully supported.

All of this might be acceptable if the criteria for determining full support were adequate. The most important component of aquatic systems is missing from the criteria, i.e., habitat. Indicators that habitat is healthy are at least as important as fish count data in determining aquatic life beneficial use support. In the absence of designating habitat alteration as a pollutant, the least DEQ can do is utilize it as an indicator of improved (or impaired) conditions for aquatic life beneficial uses in the TMDL monitoring process.

*Reasonable Assurance of TMDL Implementation.* Based on the prior discussion regarding the lack of federal funding for restoration projects (and hence the need to rely on pollution credits), the reliance in this section on a memorandum of agreement between the federal agencies and DEQ, and the lack of an implementation plan for these TMDLs, there appears to be no reasonable assurance of TMDL implementation at this time.

Thank you for the opportunity to comment.

Sincerely,  
  
Liz Sedler

May 23, 2001

Liz Sedler  
Alliance for the Wild Rockies  
The lands Council  
P.O. Box 1203  
Sandpoint ID 83864

Dear Liz:

Thank you for the comment provided by the Alliance for the Wild Rockies and The lands Council on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs). A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made the Alliance for the Wild Rockies and The lands Council as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: It is unfortunate that so little sediment delivery data has been developed for the North Fork Coeur d'Alene River. Background estimates are based on WATBAL and WATSED coefficients. Has WATBAL or WATSED been validated? Neither model is considered to provide accurate estimates of sediment loading from roads and openings.

Response 1: The sub-basin assessment (SBA) and the TMDLs must be based on the best available data. It is unfortunate that more data is not available but the TMDL must be developed on the data that exists.

The WATSED and WATBAL models were not used in the sedimentation model. The coefficients that WATSED employs for forest land sediment yield were used. The assessment incorrectly identifies these as WATSED coefficients causing this confusion. These were correctly identified as mean coefficients for Belt geology developed from in-stream sediment measurements in northern and north central Idaho.

Comment 2: Its a hydrological fact that destruction of pool and other habitat and bed load movement are directly due to more frequent natural peak flows. A direct correlation has been established between higher more frequent flood events and canopy removal and road density.

Response 2: We respectfully disagree that "a direct correlation has been established between higher more frequent flood events and canopy removal and road density". The flood frequency analysis developed from the existing gauge data (p.11) indicates that the 1974 and 1996 floods are the largest in the analysis of the Enaville and Cataldo gauges. The 1933 flood appears to have had a higher discharge based on photographic and Post Falls discharge data. Thus the three largest discharges are 1933, 1974 and 1996 in that order. The canopy removal and road construction in the North Fork have increased steadily since 1933 probably peaking in the early 1980's. If these factors increased discharge on a basin wide basis, the opposite flood history would be expected. Flood discharge appears to be weather related and not a management related phenomenon based on the available data.

It is suspected that peak discharges may be altered by management actions in the first and second order tributaries of the watershed. Discharge is not de-synchronized in small watersheds by the complex slopes and aspects of the larger watershed. Unfortunately these streams have no long-term stream discharge gauging covering large discharge events, so this suspicion cannot be proven.

The SBA has been strengthened on page 11 to point out that peak discharges may be altered in the first and second order watersheds with the caveat that no direct data is available to support this suspicion.

Comment 3: The commentator disagrees with the assumption that the impacts on water quality of canopy loss resulting from fire under natural conditions are equal to canopy loss from logging. Point out that WABAL and WATSED have not been verified; question coefficients used.

Response 3: The fire areas that were modeled to be equivalent to non-stocked areas are not typical fire areas as is pointed out in the Model Assumptions and Documentation (Appendix B). These are areas that have suffered double fire events within a decade or two of each other. Areas like these lose most woody material in the second fire. Pictures of this type of burned area may be viewed in Russell's book North Fork of the Coeur d'Alene River. These areas take many years to re-establish a forest cover and during this period have higher sediment yields. The model accounts for these areas loading to the stream over time by adjusting the yield coefficient to that of a non-stocked area.

The WATSED model was not used in the sedimentation model. The coefficients that WATSED employs for forest land sediment yield were used. The assessment incorrectly identifies these as WATSED coefficients causing this confusion. These will be correctly identified as mean coefficients for Belt geology developed from in-stream sediment measurements in northern and north central Idaho.

The sediment yield adjustment for double burn areas and identified sediment yield coefficients as mean coefficients developed from in-stream sediment measurements on Belt terrain of northern and north central Idaho has been further clarified in the SBA.

Comment 4: The SBA should point out that rain on snow events are made worse by vegetation removal. Loss of canopy to extensive logging has a dramatic effect on peak flows.

Response 4: As explained in response to comment 2, the flood frequency and history for the basin does not support the contention that canopy removal causes higher discharge events.

Comment 5: Removal of roads would not address the major problem in the North Fork caused by extensive unnatural peak flows.

Response 5: See response to comment 2. The existing data does not support this contention on a basin wide scale.

Comment 6: The sediment TMDL deals with sediment sources but does not address the main problem channel instability caused by peak flows.

Response 6: The sediment TMDL deals with the pollutant of concern, sediment. This is not to say that other factors do not effect the stream. Although the data does not support peak flow alteration on a basin wide basis, elements such as large organic debris (LOD) removal and lack of LOD recruitment clearly affect habitat and bed load mobility. These features are important but cannot be addressed under TMDLs. DEQ will urge development of a TMDL implementation plan that takes a broader view of these habitat issues than the narrow focus of the TMDL pollutants of concern.

The SBA was strengthened to point out the many habitat problems the TMDL itself does not address.



Liz Sedler  
May 23, 2001  
Page 3.

Comment 7: Background and current levels of sedimentation may not have been accurately calculated, based on comment 3.

Response 7: All models of sediment yield provide relative as opposed to exact numbers. The science concerning sediment is not exact. The model numbers are not however based on WARBAL or WATSED as related in the response to comment 3. The model results are thought to be reasonably accurate and independent assessment from measured values indicates they are in the correct range.

Comment 8: The commentator believes extrapolation of Washington State Forest Practices Board guidelines to Idaho watersheds is not warranted.

Response 8: The Washington State Forest Practices Board guidelines is the published reference that both EPA and DEQ use to compare model results to the probability of water quality violation. It constitutes the best available information on which TMDLs must be based.

Comment 9: How will the "finite ability to process sediment" be determined?

Response 9: As stated in the TMDL it will be determined by bio-monitoring of the cold water biota. When the cold water biota meets the criteria stated in the TMDL, that finite ability to process sediment will be defined. This is explained in the sediment TMDL.

Comment 10: Why was the goal not set at 43% and what were the criteria for the reference streams? The choice of reference streams is not documented enough to confirm that they were scientifically based.

Response 10: The goal was set at 50% above background by the North Fork WAG after being advised that below 50% above background sedimentation rate the Washington State Forest Practices Board guidelines find a potential for chronic water quality problems. Below 50% these guidelines do not. Since these are all modeled numbers, there is likely not a large difference between 50% and 43% above background. The control streams are all located in the lightly roaded and lightly harvested Upper North Fork sub-basin. These watersheds range from no to little development owing to large fires that swept the area early in the twentieth century. It has been clarified in the SBA that the control streams and control areas are all in the Upper North Fork sub-basin. The level of development in the upper North Fork has been further clarified in the SBA.

Comment 11: The criterion, three age classes one young of the year, is totally inadequate as a criterion for salmonid spawning.

Response 11: We respectfully disagree. This is criterion indicates population structure and that reproduction is occurring. It is one of the metrics used in WBAG 2 to develop the fish index. DEQ believes it is a sound indicator of salmonid spawning.

Comment 12: Explain why tailed frogs and sculpin are indicators of cold water biota.

Response 12: Tailed frogs and sculpins are the two other cold water vertebrate species common waters no impaired by chemical pollutants. The SBA better explains the status of tailed frogs and sculpin in these watersheds.

Comment 13: Macroinvertebrate biotic index of 3.5 is questioned as a measure of cold water biota.

Liz Sedler  
May 23, 2001  
Page 4.

Response 13: The MBI of 3.5 or greater is used by WBAG to indicate a stream with healthy macroinvertebrate diversity. The WBAG2 uses a stream macrobiotic index based on percentile of reference streams with 3 as the highest rating. Comparison of the two methods indicates that a stream with a MBI of 3.5 would have a SMI of 3 indicating healthy macroinvertebrate diversity.

Comment 14: The criterion that needs to be added to judge success is habitat improvement.

Response 14: The TMDL can only address the pollutant of concern; in this case sediment. As explained in earlier comments the TMDL process is not designed to address all the ills in streams. It is designed to address pollutants of concern that can be quantified in mass or energy per unit time. Habitat, which we agree is important to the biota, does not meet this criterion. DEQ and EPA have decided that habitat is not a characteristic for which TMDLs can be developed. The SBA clarifies that sediment not habitat is the pollutant the TMDL must address.

Comment 15: Given the lack of a TMDL implementation plan there does not appear to be "reasonable assurance" that the TMDL will be implemented.

Response 15: The reasonable assurance language is that requested by EPA. In the case of the North Fork, implementation planning would be lead by the prime manager of the watershed the Forest Service. The federal land management agencies have agreed by MOA to lead the development of implementation plans in watersheds where they manage the majority of the land. The implementation plan is expected 18 months following approval of the TMDL. The metals TMDL implementation plan is the State of Idaho's cleanup plan. This plan currently exists.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator

**IDAHO FISH & GAME**

PANHANDLE REGION  
2750 Kathleen Avenue  
Coeur d'Alene, Idaho 83815

Dirk Kempthorne / Governor  
Rod Sands / Director  
January 26, 2001

**RECEIVED**

JAN 29 2001

IDHW-DEQ  
Coeur d'Alene Field Office

Mr. Geoff Harvey  
Idaho Department of Environmental Quality  
2110 Ironwood Parkway  
Coeur d'Alene, ID 83814

Dear Geoff:

**REFERENCE: COMMENTS ON NFCDA TMDL**

We have reviewed the draft TMDL for the North Fork of the Coeur d'Alene River (NFCDA). In general, we believe the TMDL accurately puts the primary focus for sediment delivery to tributaries and mainstem reaches of the watershed on roads and road crossings.

Based on the observations of my staff, over many years of experience in the watershed, sediment issues in the watershed are acute in a number of the tributaries, and significant in some mainstem reaches. We also believe the problems are primarily associated with "legacy" conditions, i.e. those areas where roads were either poorly constructed, poorly located, and/or have been poorly maintained. However, other practices, we believe, have also contributed to the sediment related problems in the NFCDA and should be addressed in the TMDL. Further, we offer some suggestions for clarifying the information in the document.

Some important points to consider regarding fishery resources in the NFCDA watershed that are not clear from the document are that:

- Mountain whitefish (MWF) are a native, fall spawning salmonid. They are broadcast spawners (don't dig redds) with spawning areas primarily being riffles in mainstem channels. MWF are common in the NFCDA, but population trends are unknown. Densities (fish per unit area) are lower than those found for MWF in other river systems in Idaho.
- Westslope cutthroat trout spawning has only been documented in tributary streams, usually (but not exclusively) second and third order "B" and "C" channels in the NFCDA watershed.
- Available data suggest bull trout spawning occurred in tributaries also used by westslope cutthroat trout, although bull trout did not likely use all of the tributaries used by cutthroat trout.
- Prior to 2000, cutthroat trout populations in tributaries downstream from Yellow Dog Creek in the NFCDA, and downstream from Laverne Creek in the Little NFCDA were managed with a six fish bag limit, although fishing was closed through July 1 to protect spawners. If consumptive fishing pressure is significant, fish densities will decline under a six fish regulation. The regulations were changed in 2000 to allow a harvest of only two fish, and no fish between 8" and 16" can be harvested, thus we anticipate angler harvest to decline in the lower tributaries.

*Keeping Idaho's Wildlife Healthy*

Some specific comments, by page, are as follows:

P3 - In the discussion on hydrology, we believe adding a sentence or two clarifying that flood events may occur more frequently in individual tributary streams, while not significantly affecting the hydrograph of the river. This is important, because some heavily managed tributaries do show an apparently elevated response to rain-on-snow events, and USFS data indicate that bedload sediment delivery may be greater in these streams. Bedload may also be more frequently moved in these streams.

P4 - It is probably worth noting under the vegetation section that prior to intensive logging along river and stream corridors, western red cedar was a significant component of the riparian vegetation community. Western red cedar, because it grows to large diameters and can last for many decades after it falls into streams, provides an important source of large woody debris, which in turn serves to sort and store gravels and other bedload sediments. Loss of red cedar has not only resulted in the loss of this function, but has contributed to reduced streambank stability.

Also on P4, MWF should be mentioned.

P12 - The discussion on flood magnitude and frequency should expand to include the issue of individual tributary flooding (see comments for P3). Because more frequent or more intense flooding in individual tributaries is most likely to negatively impact the key salmonid species being measured as a basis for determining attainment of beneficial uses, this point is important. Impacts due to disturbance in the NFCDA watershed are most likely to manifest themselves in the tributary streams, at least from a fisheries perspective. One culvert failure in an important spawning and rearing tributary may significantly reduce habitat quality and complexity for years in a tributary stream, without being noticed in the river system.

P14 - Under the discussion of sedimentation data, it would be useful to note that some reaches of the LNFCD are now intermittent as a result of excess bedload sediment deposition into lower gradient reaches. This is a relatively recent occurrence (1990's), and represents an extreme case of sediment delivery impacting a mainstem reach.

P18-20 - The discussion of fisheries data ignores the (albeit limited) available information on MWF. Some discussion of MWF and their life history strategy is needed. Also, the statement that data collected by DEQ are "likely quite low" because they were collected near campgrounds implies that fishing pressure is the culprit, despite the discussion in the next paragraph. We suggest changing "likely quite" to "may be" if you still believe that proximity to campgrounds is the reason for low densities. Finally, we have significant concerns with reporting data in a catch per unit effort format. We recognize this represents an attempt to standardize the data from multiple sources, but it can be extremely misleading if effort is not standardized (i.e. crew size or experience is different, timing of collection is different, electrofishing gear is not the same or not used at the same settings, etc.). We recommend using only the data from the joint effort conducted in 1996 by the USFS Rocky Mountain Research Station in conjunction with the University of Idaho, IDFG, and IPNF personnel. These data covered a large number of streams over a short time period, and effort was generally standardized. If you elect to stay with the data in the TMDL document, we believe it is important to point out the weaknesses in using these

data. IDFG has data from the mainstems which include actual population estimates, eliminating the problems with using catch per unit effort data.

P40 - The discussion on vegetation alteration should, in our view, be expanded to include the issues of riparian logging, and the effects of high levels of canopy removal on the tributary watershed scale. As noted earlier, riparian logging has resulted in the loss of large woody debris recruitment to streams, and loss of bank stability. These factors contribute to the amount of bedload transported to depositional reaches or features in a stream, contributing to habitat loss. Also, USFS data indicate that storm run-off intensity and duration can be affected by significant canopy removal in lower order streams (this could also be discussed on the next page under rain-on-snow).

P42 - We believe some discussion of the effects of vegetation alteration on tributary watersheds (as opposed to just in the general sense) should be included in the summary, with reference to loss of riparian vegetation, and with reference to canopy loss.

In general, we believe the TMDL does a good job of identifying the principle sources of sediment in the watershed, and identifies an approach which, if conducted carefully, can be used to reduce the threat of additional sediment delivery. However, we also believe that there is a need to distinguish between the impacts to the tributary streams which are the primary spawning and rearing habitat for westslope cutthroat trout, and the mainstem reaches. Again, we believe most problems (the LNFCDAs notwithstanding) will manifest themselves in smaller tributary streams important for early life stages of trout, but the problems will carry over into the river as recruitment declines. It is also important to note that more modern logging and road building practices pose significantly reduced risks, but by themselves will not remove legacy risks, experienced by fish populations. And, without proper road maintenance, even properly designed road systems can contribute significant amounts of sediment. We also suggest displaying the data of Cross and Everest, or at least providing more discussion of it, to help clarify sediment issues as they relate to fish.

Thanks for the opportunity to comment.

Sincerely,



Greg Tourtlotte  
Regional Supervisor

GIT:CEC:kh

C: Tracey Trent, IDFG, Boise  
IDL, Coeur d'Alene  
USFS, IPNF Supervisor's Office  
BLM, Coeur d'Alene  
USFWS, Spokane

May 23, 2001

Greg Tourtlotte  
Regional Supervisor  
Panhandle Region  
2750 Kathleen Ave.  
Coeur d'Alene ID 83815

Dear Greg:

Thank you for the comment provided by the Idaho Department of Fish & Game on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs). A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made the Idaho Department of Fish & Game as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: Mountain whitefish (MWF) are present in the North Fork, but are broadcast fall spawners. MWF are common in the North Fork, but their population trends are unknown. MWF are present in lower densities in the North Fork than in other rivers of Idaho. Mention MWF on page 4. Mention life cycle on pages 18-20.

Response 1: Mountain whitefish, their life cycle and Fish & Game's assessment of their populations in the North Fork were included on page 4 and 18-29 of the SBA.

Comment 2: Westslope cutthroat trout spawning has only been documented in tributary streams to the North Fork.

Response 2: It has been clarified in the SBA that westslope cutthroat spawning has only been documented in the North Fork tributaries.

Comment 3: Available data suggests bull trout also spawn in tributary streams used by cutthroats but not as many tributaries.

Response 3: It has been clarified in the SBA that Bull Trout spawning has only been documented in the tributaries to the North Fork but not in as many tributaries.

Comment 4: Below Yellow Dog Creek in the North Fork and Laverne Creek in the Little North Fork the harvest was changed from six west slope cutthroat trout per day to two west slope cutthroat trout per day in 2000. No west slope cutthroat trout between 6 and 16" can be harvested.

Greg Tourtlotte  
May 23, 2001  
Page 2.

Response 4: It was noted in the SBA that the fishing harvest rules changed in 2000 and the nature of those changes.

Comment 5: A sentence or two should be added (p3) that flood events may occur occasionally on individual low order tributary streams and these may add additional bed load.

Response 5: Language indicating that first and second order watersheds may experience peak flows due to vegetation modification has been added to the flood frequency section of the SBA.

Comment 6: It should be noted in the vegetation section (p4) that red cedar was a significant component of the riparian plant communities and not its importance as long lasting LOD.

Response 6: The importance of western red cedar is acknowledged and this point was made in the vegetation section. In addition the loss of red cedar and its impact on LOD recruitment is discussed in a SBA section covering impacts which are not pollutants of concern.

Comment 7: The discussion of flood frequency (p.12) should be expanded to address floods in tributary streams. These streams are important from the fisheries point of view and where failures can have their largest impact on the fishery.

Response 7: See IDFG comment 5 response. This change was made in the flood frequency section.

Comment 8: Under the discussion of sediment data it would be useful to note that some reaches of The Little North Fork are intermittent as a result of excess bed load. This is recent since 1990.

Response 8: It was noted in the sediment data section or elsewhere as appropriate that the Little North Fork is intermittent over some reaches as a result of bed load.

Comment 9: Fishing pressure (may be) rather than (quite likely) is responsible for low fish density data from Independence Creek near the mouth.(p18-20).

Response 9: The language is changed from "quite likely" to "may be" in the discussion of low fish density in Independence Creek.

Comment 10: Data should be reported as fish per unit area without effort. IDFG has actual population estimates from the main stems eliminating the problems of catch per unit effort.(p18-20).

Response 10: DEQ feels this change is not advisable in the SBA where several different data sets were used for fish population data. It was changed in the sediment TMDL where electrofishing methods will be controlled by a strict protocol.

Comment 11: Discussion on vegetation alteration (p.40) should be expanded to cover the impacts of riparian logging and canopy removal as these have effected LOD in the streams.

Response 11: The discussion on vegetation was expanded to address riparian logging and the loss of LOD recruitment and canopy shade in the SBA.

Comment 12: Vegetation alteration of the tributary watersheds should be included with reference to loss of riparian vegetation and canopy loss.

Response 12: See response to IDFG comment 11. This discussion was extend to the tributaries in the SBA.

Greg Tourtlotte  
May 23, 2001  
Page 3.

Comment 13: More demonstration or discussion of the Cross and Everest data was requested.

Response 13: The Cross and Everest data is referenced and the key points covered in the SBA. The reader can read the referenced paper to further understand the details.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

1200 Sixth Avenue

Seattle, WA 98101

February 1, 2001

Reply To  
Attn Of: OW-134

RECEIVED

FEB -7 2001

IDEQ-DEQ

Idaho Department of Environmental Quality

Geoff Harvey  
Idaho Department of Environmental Quality  
Coeur d' Alene Regional Office  
2110 Ironwood Pkwy., Suite 100  
Coeur d' Alene, Idaho 83814

Dear Mr. Harvey:

Enclosed are Environmental Protection Agency's (EPA) comments on the Draft North Fork Coeur d' Alene Subbasin Assessment/Total Maximum Daily Load (TMDL). If you have any questions regarding our comments on the draft subbasin assessment, please feel free to contact me at (206)553-6912.

Sincerely,

Curry Jones,  
TMDL Project Manager

Enclosure: USEPA Region 10 Comments on the North Fork Coeur d' Alene Subbasin Assessment/Total Maximum Daily Load

cc: Don Essig, IDEQ

**USEPA Region 10  
Comments on the  
North Fork Coeur d' Alene Subbasin Assessment/  
Total Maximum Daily Load**

**General Comments**

1. Sediment impacts in the North Fork Coeur d' Alene are primarily bedload sediment impacting salmonid spawning through both filling in spawning habitat as well as physical injury to the redds. If the pollutant is bedload sediment, are the load allocations specified in section 3.0 of the TMDL reductions in bedload sediment or reduction in fine sediment or is this total sediment yield. ?
2. Section 2.0 - North Fork Coeur d' Alene River Subbasin Water Quality At a Glance, This section indicates that temperature is a pollutant of concern in the Upper North Fork Coeur d' Alene subbasin. If temperature is a pollutant of concern in this subbasin, it should be addressed in the subbasin assessment.
3. Page 12, Second Paragraph, This section outlines all high and low flow event monitoring that occurred for bacteria, nutrients, oil and grease and dissolved oxygen on Pritchard Creek. This section should include a concluding recommendation from IDEQ as to whether delist the stream or to keep the stream listed. If no recommendation is not provided, then a TMDL must be developed for the above listed parameters.
4. Page 12, Second Sentence, The reference should be changed to Appendix D.
5. Page 18-19, In using the St. Joe River as a reference watershed to establish reference conditions, you should also include in the text what has been the fisheries response
6. Page 19 - 21, The subbasin assessment indicates that diminished pool volumes has resulted in streambed instability which has resulted in the loss of critical spawning habitat for trout. The current TMDL (Section 3), as it stands, primarily deal with decreasing total sediment yield from the landscape. The TMDL should consider incorporating these coarse sediment targets. The TMDL should consider using the following targets:
  - Pool Frequency Targets (PACFISH/INFISH Target or Targets Adopted by the Panhandle National Forest)
  - Residual Pool Volume Targets (m<sup>3</sup>)
  - Depth Fines Target (5-year mean not to exceed 27% with no individual year to exceed 29%, and subsurface fines <0.85 mm not exceeding 10%)

(IDEQ 1999).

By incorporating these targets into the TMDL, the TMDL then makes inferential link between instream sediment targets and bedload mobility by assuming that by reducing the bedload transport rates with the Upper North Fork Coeur d' Alene River drainage, the stability of channels will increase, and by improving the channel stability, the bankfull width-to-depth ratio will decrease, pool frequency and pool volume will increase, and the volume of depth fine will decrease. This will help to create sufficient spawning habitat for fisheries in the drainage. Although hydrologic modification (flow alteration) is one of the cause of the channel instability in the Upper North Fork Coeur d' Alene River drainage, it has been determined that flow is "pollution" and not a "pollutant" thus not requiring a TMDL. Other actions should also be considered, in the implementation phase of the TMDL, to decrease peak flow in the drainage.

### **Sediment Comments**

1. **Page 23, Section 2.3.2.5.** The sediment section should include a "front-end" introductory piece which provides some background information and information on modeling assumptions used in developing the sediment TMDL. You may consider pulling information from Appendix B to include in this section.
2. **Page 31, Section 2.3.2.5.1.1.1.** Based on Table 14a-14g, agricultural land use was not incorporated into the analysis. Earlier in the subbasin assessment (page 5, paragraph 2) it was indicated that grazing was centered in the lower river valley. How was this factored into the sediment erosion model for the Upper North Fork Coeur d' Alene. This section of the TMDL should identify what sub-watersheds where the agricultural land use applies.
3. **Page 31, Section 2.3.2.5.1.1.1.** The TMDL indicates that sediment yield from agricultural lands was estimated by applying the sediment yield coefficients of 0.03 and 0.06 tons/acre/year to agricultural land. The TMDL should explain where and why the sediment yield coefficient of 0.03 and 0.06 tons/acre/year they were applied.
4. **Page 31, Section 2.3.2.5.1.1.3.** The TMDL indicates that paved roads was assigned a sediment yield on the low end of the range expected from a Belt geologic type. This section should include brief language indicating why the "low end" sediment yield is sufficient for highways in the Belt geologic type. The TMDL should also reference Table 15 which indicates that sediment yield coefficient used.
5. **Page 42, First Paragraph and Section 3.1.4** How was background/baseline sediment yield for each sub-watershed calculated? The language in this section was confusing. Is natural background levels of sediment the same as the estimated background? The TMDL fails to identify how these background sedimentation rates were derived.

6. **Page 42. First Paragraph and Section 3.1.4.** The TMDL cites Washington Forest Practices Board as indicating that sedimentation rates in excess of 100% of natural sedimentation are likely sufficiently high to exceed water quality standards. The Washington Forest Practices Board also indicates that if sediment is increased by 50 - 100%, the effect of sediment may be small, but chronically detectable. Thus, the TMDL sets a 50% over background targets. The TMDL should provide an explanation as to why 50% over background was selected. The TMDL should state if the 50% over background targets (50% "*chronically detectable*" WFPB, 1995(B-44)) will be protective of the designated beneficial use.

7. **Page 43. Section 2.3.2.5.3.** Because the major issue in the Upper North Fork Coeur d'Alene subbasin is stream-bed instability, which has reduced the amount of available spawning habitat for both cutthroat and bull trout, incorporation of a residual pool volume target and riffle armor stability target may be necessary.

8. **Page 45. Section 2.3.2.5.3 Summary.** In the summary, you indicate that the key sources of sediment in the Upper North Fork Clearwater River watershed are roads located in the floodplain, stream crossings and active and abandoned roads in the subbasin. The summary fails to identify timber extraction activities as a source of sedimentation in the watershed.

9. **Section 3. Sediment and Metals TMDL.** This section should be incorporated into the main body of the document.

10. **Section 3.1.5. Loading Capacity, 3rd Sentence** - The TMDL indicates that adequate quantitative measurements of the effects of excess sediment have not been developed. This statement is not entirely true. Several current studies have been completed which have linked excess sediment back to impairment of the designated use. The European Inland Fisheries Advisory Commission (EIFAC), through their research, suggested the following standards for protection of salmonids and others fish: < 25mg/l - no effect, 25 - 80 mg/l - Slight effect on fisheries production, 80 - 400 mg/l Significant reduction in fisheries, > 400 mg/l - Poor fisheries. Included within these comments is a copy of paper which summarizes some of these studies which have quantitatively linked excess sediment to impacts on the designated use.

11. **Section 3.1.5 Loading Capacity, 1st/2nd Bullet** - The assumption used in this TMDL is that natural background levels of sedimentation are assumed to be fully supportive of the beneficial use. The second assumption is that sedimentation levels below 80% of background is likely supporting water quality standards. These assumptions conflicts with an earlier assumption where you (Washington Forest Practices Board, 1995) mention that *if sediment is increased by 50 - 100%, the effect of sediment may be small, but chronically detectable.....sedimentation rates in excess of 100% of natural sedimentation are likely..... to exceed water quality standards.* To resolve this problem, the TMDL should consider crafting the TMDL to meet estimated background sediment yield as shown in Table 17.

**12. Section 3.1.5, Loading Capacity.** The TMDL indicates as a premise that sedimentation rate below 80% of background are likely to support water quality standards. The TMDL then uses a 50% over background (Section 3.1.5, Page 5) as the target. The TMDL should consider referencing one number as a percent over background target (50% over background).

**13. Section 3.1.5, Loading Capacity, Page 4-5, Table 3** The TMDL indicates that an *interim* sediment TMDL goal of 50% above background is set for the entire watershed. The word interim should be struck out. TMDL actions are final actions. You may consider including language which indicates the sediment TMDL goals of 50% above background may be changed as additional data is collected. As mentioned earlier, what is the basis for the 50% above background? How was it calculated and will it meet water quality standards and be protective the designated use?

**14. Section 3.1.5, Loading Capacity, Table 3** - Table 17 in Section 2, Table 3 in Section 3 and Table 13 in Section 3 are all different. Because these table are the critical pieces used to both define the loading capacity and derive the percent reductions needed to meet the loading capacities, it is critical that these tables be consistent.

**15. Section 3.1.8, Table 13 Subbasin Sediment Allocation.** Table 13 does not clearly identify how the existing sediment load was calculated or how the sediment reduction required were calculated. Table 17 in Section 2 identified the existing sediment loads within each subwatershed. The required reductions to meet the loading capacity would be the load reduction necessary to meet the loading capacity as described in Table 3, Section 3. The TMDL should clearly state how the percentage reduction in sediment loading was calculated. In making revisions to the sediment load reductions, the TMDL should consider the earlier comments regarding using background as a starting point for the sediment reductions.

May 23, 2001

Curry Jones  
USEPA Region 10  
1200 Sixth Avenue  
OW-134  
Seattle WA 98101

Dear Curry:

Thank you for the comment provided by the Environmental Protection Agency (EPA) on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs) in your letter of February 1, 2001. A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made the Environmental Protection Agency (EPA) as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: Sediment impacts in the North Fork Coeur d'Alene are primarily bed load impacts to salmonid spawning through filling of habitat as well as physical injury to redds. Are sediment reductions, fines, bed load or total sediment yield?

Response 1: Sediment reductions in the TMDL are total sediment yield reductions. It should be clarified that the sediment impact is suspected to be pool filling. Fine sedimentation of redds does not appear to be a problem, because young of the year are detected in most tributaries, where the spawning does occur.

Comment 2: North Fork at a glance indicates temperature is a pollutant of concern. It should be addressed in the SBA. Section 2.0.

Response 2: This section was in error. Temperature is not listed as a pollutant of concern for any segment of the North Fork or its tributaries. Temperature was removed from the listing of pollutants of concern in section 2.0.

Comment 3: On page 12, 2nd paragraph, the section outlines all high and low event monitoring for bacteria, nutrients, oil and grease and dissolved oxygen on Prichard Creek. The section should end with a recommendation on these pollutants be delisted.

Response 3: We agree with this conclusion that is stated elsewhere in the document. It will be stated at the end of the paragraph on page 12.

Comment 4: On page 12, 2nd sentence, reference should be changed to Appendix D.

Response 4: We agree the reference is mislabeled.

Curry Jones  
May 23, 2001  
Page 2.

Comment 5: On page 18-19, in using the St. Joe River as a reference watershed, the fisheries response in the St. Joe should be stated in the text.

Response 5: The fishery response, we believe is stated in the text. However, this will be clarified and we now show by reference that the St Joe has health fish density numbers.

Comment 6: The TMDL should consider using coarse sediment targets ie. pool frequency targets; residual pool volume targets, depth fines target.

Response 6: We do not believe the allocation should use surrogates of sediment mass per unit time. We do agree that residual pool volume targets would be of value in the implementation plan. The SBA and load allocation documents will indicate that the implementation plan should contain residual pool volume targets.

Comment 7: On page 23, section 2.3.2.5, the sediment section should include "front end" introductory piece that provides some background information and information on modeling assumptions.

Response 7: We believe the model assumptions are laid out in section 2.3.2.5.1 between pages 31 and 34. Since the model assumptions and its documentation are so important, we have expanded this discussion greatly in Appendix B. More discussion would burden the basic thrust of the SBA.

Comment 8: On page 31, section 2.3.2.5.1.1.1, agricultural land was not incorporated into the analysis. Yet grazing in the lower basin.

Response 8: In the case of the North Fork Coeur d'Alene River, the agricultural land is all grazing land. The RUSLE coefficients are applied to this land in the Little North Fork and the lower North Fork sub-watersheds. Grazing is not practiced elsewhere to any great extent.

Comment 9: On page 31, section 2.3.2.5.1.1.1, the TMDL should say where/why the agricultural sediment yield coefficients were applied.

Response 9: We believe the SBA says that the agricultural coefficients are applied to the grazing land. This has been clarified in the SBA.

Comment 10: On page 31, section 2.3.2.5.1.1.3, the TMDL indicates paved roads were assigned a sediment yield coefficient at the low end for the Belt geologic type. The assessment should rationalize this coefficient and refer to table 15.

Response 10: This assumption is rationalized in Appendix B. Its use is clarified in the SBA.

Comment 11: On page 42, first paragraph and section 3.1.4, the TMDL fails to adequately define how background sedimentation was calculated. Natural and background sedimentation rates are confused.

Response 11: Natural and background sedimentation rates were used interchangeably as the amount of sediment yield expected from the fully forested watershed. We believe this was explained in the text, however this point has been clarified in the SBA and TMDL.

Comment 12: On page 42, first paragraph & section 3.1.4, the TMDL should provide an explanation of why 50% above background was selected as the goal when 50% is still in the chronically detectable range. The TMDL should show how 50% does not affect the beneficial uses.

Response 12: The TMDL cites the Washington Board of Forestry Guidelines. These guidelines indicated clear water quality problems above the benchmark of 100% above background and the possibility of chronic effects between 100% and 50% above background. Below 50% they speak only to "detectable" sediment. To our knowledge sediment is always detectable in streams, since it is a natural component of streams. IDEQ reads the Washington Board of Forestry guidelines to clearly indicate that water quality problems below 50% above background do not occur. These points are made clear in section 3.1.4.

Comment 13: On page 43, section 2.3.2.5.3, a residual pool volume target may be necessary.

Response 13: See response to EPA comment 6. We expect to recommend this for the implementation plan, but in the allocation (TMDL) will address mass per unit time as is required as the initial guideline in federal regulation.

Comment 14: The summary fails to identify timber extraction activities as a source of sedimentation in the watershed.

Response 14: Timber extraction is a fuzzy term. The assessment deals with all aspects of timber extraction. It provides higher yield coefficients for non-stocked forest acres, those not replanted and established, it addresses roads on which timber is exported. Timber extraction, removal of the log has no quantifiable impacts we have identified other than these. The summary was assessed to make clear the removal of vegetation from landmasses and the impacts of roads are addressed. It is unlikely the term timber extraction itself will be used.

Comment 15: Section 3, Sediment and metals TMDLs, this section should be incorporated into the main body of the document.

Response 15: The format used in the package, Section 1.0 Executive Summary, Section 2.0 SBA, Section 3.0 TMDL allocations, Section 4.0 Responsiveness Summary and Section 5.0 Implementation plans is set by the State Office and is the format required by IDEQ.

Comment 16: In section 3.1.5, Loading capacity, 3rd sentence, the TMDL indicates that adequate quantitative measurements of the effects of excess sediment have not been develop. This is not entirely true. The comment cites work of the European Inland Fisheries Advisory Commission on suspended sediment concentrations.

Response 16: The European Fish Commission quantitative measurements are obviously measurements of suspended sediment. Bed load sediment is clearly identified in the SBA as the pollutant of concern. The section was clarified by inserting the work "bed load" sediment.

Comment 17: In section 3.1.5, Loading Capacity, 1st and 2nd bullets, the assumption used in this TMDL is that natural background is assumed to support beneficial uses, that 80% above background is likely to support beneficial uses. The assumptions conflict with earlier assessment where Washington Forest Practices Board is cited; 50-100% above background chronically detectable sediment; 100% above background water quality violation. To resolve the problem the TMDL goal should be placed at background as shown in Table 17.

Response 17: The 80% is a typographical error it should be 50%. The 80% was corrected to 50%.

Comment 18: In section 3.1.5, Loading capacity, essentially same comment as comment 17.

Response 18: See the response to EPA comment 17.



Curry Jones  
May 23, 2001  
Page 4.

Comment 19: The word interim should be struck from the TMDL. TMDL actions are final actions.

Response 19: We disagree. Any TMDL is subject to revision as standards change or new information is developed. In the usage of "interim" in the text, it is clear that the proper level of sediment yield will have been established. This new information will be used to develop a refined TMDL. In this sense any TMDL is interim. EPA does not govern usage of the English language, especially since the term interim still exists in its own guidance.

Comment 20: In section 3.1.5, Loading capacity, Table 3, Table 17 in Section 2, table 3 in Section 3 and table 13 in section 3 are all different. These tables should all be consistent.

Response 20: These tables are different for a reason. Table 17 in section 2 (SBA) is the model results for the major sub-basins of the watershed. Table 3 is the loading capacity, the load allowable at the point of compliance in tons per year. Table 13 is the estimated reduction necessary upstream of the point of compliance in tons per year. The simple subtraction demonstrated the modeled sediment at the point of compliance minus the loading capacity. The table and their distinctions are further clarified in the SBA and sediment TMDL.

Comment 21: In section 3.1.8, Table 13, sub-basin sediment allocation Table 13 does not indicate how the existing sediment load was calculated. The TMDL should clearly state how the percentage load reduction was calculated.

Response 21: The table takes the modeled sediment yield from the watershed above the point of compliance and subtracts the loading capacity at the point of compliance. This point has been clarified in the TMDL.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator



## Kootenai Environmental Alliance

P.O. Box 1598 Coeur d'Alene, ID 83816-1598

Geoff Harvey  
Division of Environmental Quality  
2110 Ironwood Parkway  
Coeur d'Alene, ID 83814-2648

May 2, 2000

Dear Mr. Harvey:

The following comments are in response to the Draft NF CDA River Sub-Basin Assessment. The subject title and page number of the Draft is given for each of the pages where we have comments and/or concerns.

1. Vegetation, page 4.

We do not believe the sentence that White pine, PP, and WL have been selectively logged is accurate. No data is supplied that would show the locations where the so called selective logging occurred, and during what years the selective logging occurred. Also numerous Forest Service(FS) documents released during the 1990's indicated that there were logging root rot trees in order to halt the spread of root rot. The final report needs to supply data that would show the year when the FS first realized that there logging was causing the root rot problems to get worse instead of better. *site present*

2. Cultural Impacts, page 5.

There is the following sentence on page 5 "The watershed has sustained appreciable timber harvest with the development since the turn of the century."

This sentence and other sentences on page 5 do not give a true and accurate picture of the extent of the FS logging that has taken place in the watersheds of the NF Assessment Area after 1970 and which continues up to the present time.

I have enclosed Attachment #1 which indicates that there has been very significant logging in the Coeur d'Alene National Forest(CDA NF). The data indicates that intensive clearcut logging has taken place on the CDA NF after 1970.

Between the years 1970-1979, 13,049 acres were clearcut on the Forest.

Between the years 1980-1989, 17,287 acres were clearcut on the Forest.

Between the years 1990-1996, 11,214 acres were clearcut on the

Forest.

This amounts to 41,550 acres of clearcuts, or 64.9 square miles of clearcuts. An examination of this logging will show that it was not uniformly distributed across the entire Forest. Intensive clearcut logging occurred in a number of watersheds within the 536,605 acres of National Forests that are mentioned at the top of page 5.

I have also enclosed for the record Attachment #2, FS letter to KEA, dated Nov 7, 1997. This letter has FS data for selected Compartments that include watersheds that are within the NF Assessment Area. Compartment 138 is in the Flat Creek drainage; Compartment 139 is in the Yellowdog drainage; Compartment 140 is in the Uranus drainage; Compartment 141 is in the Grizzly drainage; Compartment 142 is in the Comfy drainage; Compartment 143 is in the Clay drainage; Compartment 144 is in the Can creek drainage; Compartment 145 is in the Upper Cougar drainage; Compartment 146 is in the Lower Cougar drainage and Compartment 181 is in the Lower Steamboat drainage. For these Compartments alone there has been over 16,000 acres clearcut. Also, it is not mentioned on page 5 that over 1,000 acres in the Steamboat Creek drainage that were clearcut in the late 1980's and early 1990's and then replanted. These acres were not in fact planted properly. These acres have had to be replanted or are in the process of being replanted.

The Final Assessment should provide to the public and the EPA data from the FS that will indicate the number of acres of clearcut logging that has taken place since 1970 for the other Compartments that are within the NF Assessment Area. This data is needed in order to show that intensive clearcut logging in the NF Assessment Area did not stop in mid century as is stated at the bottom of page 5. KEA does not have access to the Oracle database software that is used by the FS to access the TSMRS database. We would have supplied the data for the other Compartments if we had the Oracle software.

### 3. Delisting of waterbodies. Page 7.

KEA submitted written comments in 1999 to DEQ in Boise regarding segments that were proposed for delisting. We did not agree with the proposed delisting and the Final Assessment should indicate whether the EPA has approved delisting of any of the streams that were proposed for delisting by DEQ.

### 4. Flow alteration. Page 11.

We wish to add the following quotations to the record regarding the two sentences that mention flow alteration at the top of page 11.

These sentences are found in Section 1, page 2 of the USDA Forest Service, Northern Region, publication "Forest Hydrology, Hydrologic Effects of Vegetation Manipulation, part II, Haupt, H.F., et al, 1976."

"The fact that removal of forest vegetation increases streamflow has been known since the early 1900's. Research conducted across the Nation has verified this fact. Nearly every study in forested zones has shown a pronounced increase in streamflow following forest cutting or a gradual decrease in streamflow if an area is reforested (Hibbert, 1967). The magnitude of the increase or decrease is a function of climate, topography, vegetation, and other environmental factors."

From page 7 of Section 1 "Forest removal increases water yield because of one or more of the following:

1. A reduction of transpiration.
2. An increase in wind turbulence which results in redistribution of snow and greater local snow accumulation.
3. A reduction of interception.
4. More efficient conversion of the snowpack to streamflow."

From page 15 of Section 1 "Increased water yields from clearcutting have been found to be proportional to the percent of the drainage cleared (Rothacher, 1970). Greater water yields are also obtained from deep rather than shallow soils, and from high precipitation areas (Hewlett and Hibbert, 1961; Lull and Reinhart, 1967)."

5. RASI Indices, pages 14 and 15.

Our interpretation of the RASI procedure as developed by the former Forest Hydrologist for the IPNF is that increased stream flow is intimately related to the degree of bedload movement. It is the stream flow that is moving nearly 100% of the stream particles in streams within a number of the watersheds in the NF Assessment Area.

Regarding the terms managed vs. unmanaged watersheds, the unmanaged watersheds in the upper St. Joe River have not been logged. The Final Assessment should indicate that the "managed watersheds" in the NF Assessment Area have in fact been intensively logged, which includes numerous large 40 acre clearcuts. The FS TSMRS database can be queried using Oracle to indicate the number of large clearcuts that have been produced since 1970 within the NF Assessment Area.

We do not believe there is accurate, credible scientific studies that has been produced that will prove the high RASI values, along with the very RASI values are a result of road construction only in the NF Assessment Area. If there are such reports, the Final Report needs to supply the specific data from each of these studies that indicates road construction is solely responsible for high RASI values.

6. Residual pool volume. Page 16.

We wish to include for the record the following quote from the 1993 IPNF Forest Plan and Evaluation Report. On page 45 it was stated "Our data suggest that past methods of roading and harvesting have altered rain on snow peak flows effecting changes

in channel stability detrimental to physical fish habitat as a result of headwater scour. Changes in physical fish habitat, loss of residual pool depth and volume, have resulted in a downward trend in fish populations in general and the restriction of the geographic range of bull trout, a Forest Plan management indicator species."

On page 16 of the draft it is indicated that the NF segment below Yellowdog Creek has diminished pool volume, and Steamboat Creek has significant reductions in mean residual pool volume. We believe that there is a direct correlation between the negatively impacted pool quality and pool quantity in the streams in each area, and the 4,348 acres that have been clearcut in the Yellowdog Compartment, and the 5,599 acres that have been clearcut in the Comfy, Clay, and Can Compartments in the Steamboat Creek drainage. It also should be pointed out that additional logging has taken place in the Yellowdog drainage since 1997 and more logging is proposed by the FS for both the Yellowdog Downey and Steamboat drainages.

7. Fish Population Data. Page 18.

We wish to enter into the record the following sentences that concern the discussion of Westslope Cutthroat Trout on page 18. On page 216 of the Small Sales Draft EIS, Coeur d'Alene River Ranger District, March 2000, it is stated "A population status review of the westslope cutthroat trout in Idaho has determined that populations in northern Idaho have declined over their historic distribution with viable populations existing in only 36% of the original Idaho range. The primary cause of the decline was found to be habitat degradation (Rieman and Apperson 1989)." We believe that stream bed instability, including bedload movement, is in fact habitat degradation. The habitat degradation resulting from the streambed instability, including bedload movement, appears to be causing as much damage to fisheries as does sediment production.

8. Land use data. pages 21 thru 27.

Tables 9a thru 9g left out data for the number of acres that have been logged from FS timber sales in each of the watersheds listed. There is not explanation for the complete lack of logging data on these tables and the issues relating to increased flows canopy openings, and bedload movement.

9. Forest land sediment yield and export. Page 28.

Page 28 discusses sediment yield and the WATBAL model. The 1989 WATBAL Technical User Guide on page 15 has a section devoted to Sediment Routing. On page 15 it is stated "WATBAL uses a primitive equation based on a function of the area of the watershed to perform this function. It is recognized that this lack of accurate stream routing and insufficient recognition of stream dynamics is the weakest and as a critical element must be given top priority in future developments."

A recent document from the Clearwater National Forest, North Lochsa Face ROD, April 2000, indicates that there have been some updates to the Model, including landtypes and precipitation data, but no update that would produce more accurate stream routing. We question how useful the values are that are given in the draft document. The sediment routing section of the Model still lacks scientific accuracy.

10. Sedimentation Mechanisms. Page 38.

There is the following sentence near the bottom of the page "Stream bed instability is typically caused by increases in the sedimentation or stream power." This sentence is not clear. It would seem that stream bed instability is the amount of bed material that is moving annually. The degree or percent of the streambed that is moving annually should also be a part of streambed instability.

The final Assessment document should have an extended discussion of the hydrology involved when talking about stream bed instability.

It is also mentioned on page 38 "The root parameter of concern for the North Fork is hydrologic modification." The next sentence indicates that logging is the chief land use and that the cause of the hydrologic modification should be sought in this nonpoint source activity. Why would the extensive regeneration logging in the watersheds not be considered as a cause of hydrologic modification? The FS Forest Hydrology publication mentioned above in #4 considered logging as a hydrologic modification.

The first 4 sentences at the top of page 39 do not make sense in relation to the sentences at the bottom of page 38. It appears some sentences are missing.

11. Vegetation Alteration, etc. pages 39 thru 43.

The following Federal Laws have specific requirements that were to be followed by the Forest Service regarding planning timber sales and logging on the National Forests.

The National Environmental Policy Act of 1969, P.L. 91-190, effective January 1, 1970.

NEPA at 40 CFR 1500.1(b) states "The information must be of high quality. Accurate scientific analysis expert agency comments and public scrutiny are essential to implementing NEPA."

NEPA at 1500.3 states "Parts 1500 through of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969, as amended (Pub. L. 91-190, 42 U.S.C. 4321 et seq.)"

NEPA at 1502.16(a) & (b) have requirements that concern direct and indirect effects.

NEPA at 1502.24 has requirements regarding methodology and scientific accuracy.

NEPA at 1508.7 has requirements regarding cumulative impacts.  
NEPA at 1508.27(a)& (b) has requirements regarding significant impacts.

The National Forest Management Act of 1976, P.L. 94-588, October 22, 1976.

The NFMA has the following requirements at Sec. 6(g)(3)(E)...  
"insure that timber will be harvested from National Forest System lands only where--

(i) soil, slope, or other watershed conditions will not be irreversibly damaged;

(iii) protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat;"

NFMA at 6(g)(3)(F)(v) also required that... "such cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and esthetic resources, and the regeneration of the timber resource."

The Clean Water Act of 1972, P.L. 92-500, also had as a goal to restore and maintain the chemical, physical and biological integrity of the Nation's waters. An interim goal was the protection and propagation of fish, shellfish, and wildlife.

The Idaho Forest Practices Act also has been in existence for over 25 years. The Act and the state BMP's were suppose to prevent damage to fisheries and water quality when logging took place on forest lands.

The Forest Service consistently over the last 25 years released timber sale documents with a Finding of No Significant Impact (FONSI). The FONSI's stated there would be no negative impacts to fisheries, fisheries habitat, water quality and water quantity. Every single timber sale document released for logging in the 27,000 acre Steamboat Creek drainage had a Finding of No Significant Impact. This drainage has had over 100 timber sales of various sizes with over 215 MMBF of timber removed from the drainage. Every timber sale proposed in Yellowdog Downey drainage also had a Finding of No Significant Impact, as has nearly every other timber sale proposed for the drainages within the NF Assessment Area. Large timber sales that took place in; Shoshone Creek, Lost Creek, Cabin Creek, Rampike Creek, Clinton Creek, Prichard Creek, Falls Creek, East and West Fork of Eagle Creek also had FONSI's issued by the Forest Service. The facts show however that the FS FONSI's have been consistently wrong, but this is not mentioned anywhere in the draft.

The draft assessment on pages 39 through 43 does not discuss, nor explain, nor address the issue of watersheds now being classified

by the FS as Non Functional(NF), or Functioning at Risk(FAR). Enclosed as Attachment #3 are pages 60 and 61 of the IPNF's 1998 report "An Assessment of the Coeur d'Alene River Basin." Page 60 is a map that indicates the areas on the entire CDA National Forest, which includes the NF Assessment Areas, that are either NPF or FAR. Page 61 describes NF and FAR.

How is it that nearly every single major watershed in the NF Assessment Area is now either classified as NF or FAR when the experts consistently stated year after year after year that there would be no negative impacts to these watersheds from logging? How is it that the State BMP's did not protect the fisheries in each of the watersheds from degradation?

The classifications of the watersheds by the FS are now classified as Properly Functioning(PF), FAR, and Not Properly Functioning(NPF), IPNF Douglas Fir Beetle FEIS, chapter III, page 117, June 1999.

For the record, the DBF FEIS, pages 122 thru 144 of Chapter III, describe the following watersheds as either NPF or FAR; the Hayden Lake watershed. Also, the Fernan Creek tributary, Wolf Lodge Creek tributary, Marie Creek tributary, Stella Creek tributary, Beauty Creek tributary, Carlin Creek tributary, Cedar Creek tributary, Forth of July Creek tributary, all of which are in the CDA Lake watershed. Also listed as either NPF or FAR; Chain Lakes Analysis area; Steamboat Creek watershed; Bumblebee Creek watershed; part of the Hart Creek watershed; and the Beaver Creek watershed.

Since the emphasis is on the damage caused by roads in the NF Assessment Area on pages 39 thru 43, there is no explanation or discussion as to why the damage happened. The professional expertise and judgement by the experts would have been expected to prevent this damage.

The Forest Hydrology publication, in Section 4 has a discussion that concerns protecting fish habitat and road construction. The References that are cited include "Criteria for designing and locating logging roads to control sediment, Packer, Paul E., Forest Science, 13(1) 2-18-(1957)."

Another Reference is "Guides for controlling sediment from secondary logging roads, Christenson, G.F., Intermountain Forest and Range Experimental Station, Northern Region Handbook, U.S. Forest Service, Region 4 (1964)."

There are also 3 References that have a date of 1970 that all address the issue of Forest roads, roadbuilding and sediment production.

Would not a literature search for FS documents relating to road building and sediment production produce a large number of documents that have been published over the past 40+ years? How is it that the damage to the watersheds by road building occurred when the FS experts had the research to prevent the



damage?

The draft on pages 39 thru 43 does not mention or discuss the amount of FS road construction and reconstruction that took place in the watersheds throughout the 1980's and into the 1990's. The number of miles of new road that were built and the number of miles that were reconstructed should be included in the Final Assessment.

It is clear that research regarding road building and sediment production was performed by the FS and available to the FS since at least 1957. Now 40+ years later, it is stated by the experts, who are absolutely sure, that building new roads, reconstructing old roads, along with pulling some culverts and closing some roads will fix all the water related problems in the watersheds of NF Assessment Area.

Proposed TMDL's that are strictly concerned with sediment reductions alone and that do not address stream bed movement and instability will not meet the requirements of the CWA. The intent of the Clean Water Action Plan will also not be met with the continued refusal to address the issues relating to peak flows from canopy removal and bedload movement.

12. Pollution Control Strategy, page 44.

More FS timber sales will not cure the water related problems within the NF Assessment Area. This approach has not worked and will not work due to continued failure of FS timber sales to meet the requirements of Federal laws including NEPA, NFMA, and the CWA. More timber sales are a business as usual approach that has as the highest priority cutting trees in order to meet timber targets.

The proposed pollution control strategy would simply allow more logging in degraded watersheds and any so called improvements to fisheries would take 40 or more years to achieve at the earliest. FS documents for proposed timber sales, such as the Boston Brook sale proposed during 1998 in Steamboat Creek have already stated that the improvements to the fisheries from restoration work would be slight and would only occur over the "long term". At the same time there would be a negligible improvement to the fisheries in the drainage, 667 acres were planned to be clearcut and 8.4 MMBF of timber removed.

The March 30, 2000 ruling by U.S. District Judge William Alsup in San Francisco which upheld the EPA's authority regarding nonpoint sources directly concerns the proposed strategy of continued logging in damaged watersheds in the Assessment Area. The cumulative effects to the fisheries in the watersheds from both logging and road building are being ignored on page 44 of the draft and will not comply with the requirements of the CWA.

It has not been shown anywhere in the draft that the proposed strategy of more logging and road building in the damaged watersheds will significantly improve the fisheries and fish

habitat in the Assessment Area. No analysis is supplied in the draft that indicates independent professional fisheries biologists, or Idaho Fish & Game fisheries biologists support the proposed logging strategy called for on page 44. The final assessment document needs to include an indepth analysis of the fisheries conditions from independent professional fisheries biologists.

The 573,695 acre watershed includes 536,605 acres that are managed by the FS and another 3,378 acres managed by the BLM, page 5 of the draft. Any proposed timber sales in the NF Assessment Area by the FS must fully and completely comply with the Federal Laws mentioned earlier.

13. Appendix B. pages 1 thru 4.

Regarding the use of the WATSED model, the final assessment document should have information that will indicate to the public the minimum number of acres in a watershed that can be analyzed by the Model. The final assessment document should also include information that will inform the public of the size in acres of the smallest watershed that was analyzed using the Model.

We wish to be put on the mailing list to receive a copy of the final assessment when it is released.

Sincerely,

*Mike Mihelich*

Mike Mihelich

Forestry Committee

Attachments: 1, 2, 3

cc: US EPA



United States  
Department of  
Agriculture

Forest  
Service

Idaho Panhandle  
National Forests

Coeur d'Alene River  
Ranger District

Silverton Office  
P. O. Box 14  
Silverton, ID 83867

Fernan Office  
2502 East Sherman Avenue  
Coeur d'Alene, ID 83814

File Code: 1950

Date: October 23, 1997

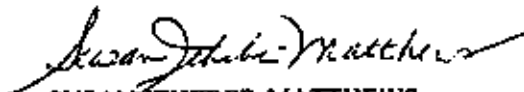
Mike Mihelich  
Kootenai Environmental Alliance  
P.O. Box 1598  
Coeur d'Alene, ID 83816-1598

Dear Mr. Mihelich:

The following information is provided from the Timber Stand Activities database in response to your request dated September 6, 1997.

1. Approximately 701,166 acres of the Coeur d'Alene River Ranger District are classified as forested.
2. Approximately 74,911 acres have had regeneration harvests from 1965-1996 on the Coeur d'Alene River Ranger District. This includes clearcut, seedtree, selection, shelterwood, and liberation harvests.
3. Approximately 56,439 acres were clearcut harvested from 1965-1996 on the Coeur d'Alene River Ranger District. During the same period, salvage logging occurred on approximately 57,960 acres, and shelterwood harvests occurred on approximately 11,070 acres.
4. Approximately 14,889 acres were clearcut harvested from 1965-1969 on the Coeur d'Alene River Ranger District.
5. Approximately 13,049 acres were clearcut harvested from 1970-1979 on the Coeur d'Alene River Ranger District.
6. Approximately 17,287 acres were clearcut harvested from 1980-1989 on the Coeur d'Alene River Ranger District, with approximately 11,214 acres clearcut harvested from 1990-1996.
7. Between 1980 and 1989, clearcut harvest occurred on 969 acres in Compartment 138; on 1,276 acres in Compartment 139; on 356 acres in Compartment 140; on 131 acres in Compartment 141; on 820 acres in Compartment 142; on 469 acres in Compartment 143; on 180 acres in Compartment 144; on 1,580 acres in Compartment 145; and on 14 acres in Compartment 146. Between 1990 and 1996, clearcut harvest occurred on 128 acres in Compartment 138; on 72 acres in Compartment 139; on 127 acres in Compartment 140; on 0 acres in Compartment 141; on 435 acres in Compartment 142; on 0 acres in Compartment 143; on 479 acres in Compartment 144; on 10 acres in Compartment 145; and on 96 acres in Compartment 146.
8. Between 1980 and 1989, clearcut harvest occurred on 0 acres in Compartments 314, 319, 335 and 346; on 57 acres in Compartment 320; and on 285 acres in Compartment 357. Between 1990 and 1996, clearcut harvest occurred on 0 acres in Compartments 314, 319, 320, and 335; on 11 acres in Compartment 346; and on 192 acres in Compartment 357.

You also requested information regarding the amount of timber volume removed from the Coeur d'Alene Ranger District since 1965, and since 1980 in specific compartments. Our database records do not contain this information.

  
SUSAN JEHEBER-MATTHEWS  
District Ranger



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United States  
Department of  
Agriculture

Forest  
Service

Idaho Panhandle  
National Forests

Coeur d'Alene River  
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File Code: 1950

Date: November 7, 1997

Mike Mihelich  
Kootenai Environmental Alliance  
P.O. Box 1598  
Coeur d'Alene, ID 83816-1598

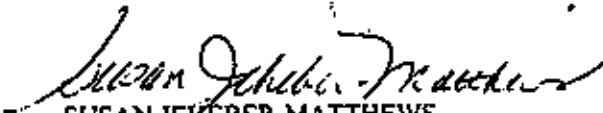
Dear Mr. Mihelich:

The following information is provided from the Timber Stand Activities database in response to your request dated November 1, 1997.

Compartment #	Acres	Acres of Regeneration	Acres of Clearcut Harvests
138	9,992	3,119	2,672
139	11,471	4,871	4,348
140	4,757	815	815
141	4,635	131	131
142	8,637	2,968	2,514
143	7,640	4,115	2,187
144	5,867	933	898
145	8,662	3,439	2,146
146	4,062	242	137
181	5,921	585	378

Please note that under some regeneration methods, a second treatment may occur on the same acres. For example, a shelterwood is a regeneration harvest method in which some of the trees remain following initial harvest to supply seed and shelter for the remaining stand. Final removal of the shelterwood trees may or may not occur following regeneration establishment (5 to 15 years).

If you have additional questions, please feel free to contact either Steve Bateman or me at 769-3000.





  
SUSAN JENEBER-MATTHEWS  
District Ranger

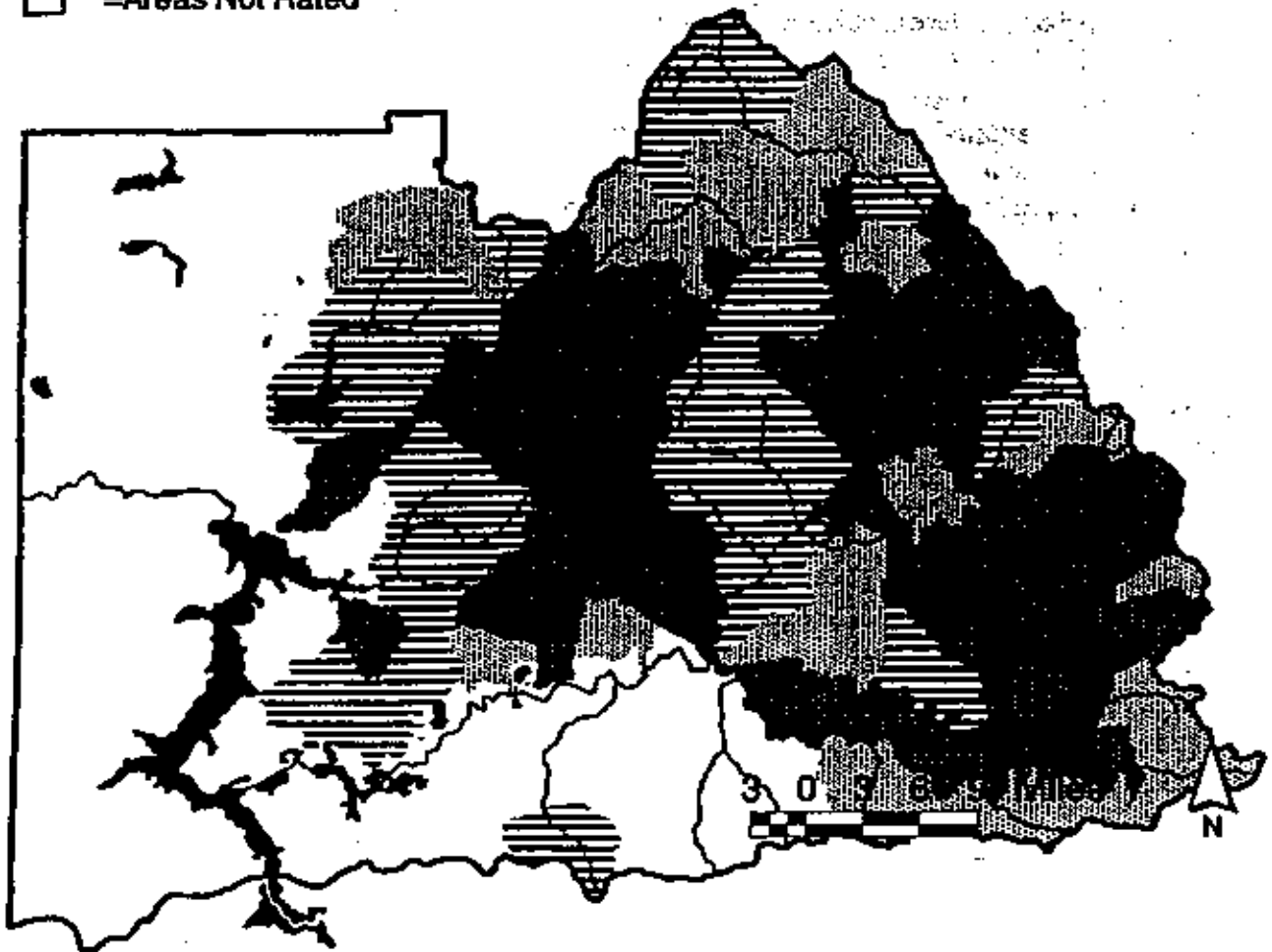


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# **Coeur d'Alene Geographic Area Watershed & Aquatic Condition and Priority**

-  = Properly Functioning Condition
-  = Functioning, but at Risk
-  = "Non-Functional" Watersheds
-  = Areas Not Rated



**FIGURE 21. COEUR D'ALENE GEOGRAPHIC AREA:  
WATERSHED / AQUATIC CONDITION AND PRIORITY.**

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IDHW-DEQ  
Coeur d'Alene Field Office

Expectations for these watersheds include:

- \* Conserve and protect functioning processes
- \* Little or no risk to aquatic systems
- \* No priorities for watershed-wide restoration
- \* Few new roads.

"Functioning-at-risk" watersheds have high watershed and aquatic integrity with present or ongoing adverse disturbances likely to compromise that integrity if the disturbances are not modified or corrected; or, at a minimum, the watersheds have moderate hydrologic and aquatic integrity which has been compromised by adverse disturbances.

Expectations for these watersheds include:

- \* Highest priority for watershed and aquatic restoration
- \* Net reduction in roads
- \* Focus for watershed restoration funding.

"Non-functional" watersheds are either not in dynamic equilibrium or the physical and/or aquatic integrity has been so compromised that restoration efforts may be futile without extraordinary funding sources and very long recovery time periods. Non-functional watershed systems contain aquatic resources that are degraded; essentially, these systems are not capable of fully supporting beneficial uses without management intervention and/or extremely long time periods.

Expectations for these watershed include:

- \* Aquatic recovery is a very long prospect
- \* Large-scale restoration occurs in conjunction with vegetative restoration
- \* Some short-term aquatic risks may be tolerated to foster long-term recovery.

Further detailed information on the watershed restoration priorities can be found in the watershed recommendation component report listed in Appendix A.

Terrestrial landscapes were classified into one of three condition classes (Figure 22):

- Condition 1 - Moderate problems, but some desirable attributes;
- Condition 2 - Serious problems;
- Condition 3 - Relatively good condition.

"Condition 1" landscapes have vegetative patterns and composition that are out of sync with natural forces, fragmentation and loss of large blocks of mature/old forests, and loss of wildlife security due to heavy roading. However, these same landscapes also have significant areas with desirable attributes that should be sustained. "Condition 1" landscapes are primarily a heavily roaded matrix of mature/old forest mixed with numerous patches of young stands that were regenerated in the past 40 years.

Expectations for these landscapes include:

- \* Designating well connected, large blocks of mature/old forest to meet the needs of species dependent upon this habitat type.
- \* Tending young stands to favor potentially long-lived early seral tree species and to promote development of large trees.
- \* Reducing road density to increase wildlife security, while maintaining a basic transportation system necessary for stand tending.

May 23, 2001

Mike Milhelich  
Kootenai Environmental Alliance  
P.O. Box 1598  
Coeur d'Alene ID 83816-1598

Dear Mike:

Thank you for the comment provided by Kootenai Environmental Alliance (KEA) on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs) in your letter of May 2, 2000. A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made by KEA as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: The commentor does not believe that White Pine, Ponderosa and Western Larch were selectively logged, Page 4, SBA .

Response 1: Selectively logged was used here in the sense that these species were taken while most others were left ("highgraded") or the rest of the stand was slashed and burned. This was typical in the early logging days according to Russell (Russell, B. 1985. North Fork of the Coeur d'Alene. Lacon Press Harrison, Idaho. This point has been clarified in the text of the SBA.

Comment 2: The description of the magnitude of logging does not give the true picture of the logging. This is followed by a list of intensive clearcutting since 1970.

Response 2: The magnitude of logging is described in the document and certainly the road density data indicates the level of watershed entry. This part of the sub-basin assessment (SBA) has been beefed up to explain the logging has been extensive in the basin.

Comment 3: KEA did not agree with the waterbodies delisted from the 1996 list to create the 1998 list.

Response 3: EPA approved the 1998 list 303(d) list with some adjustments. Those EPA adjustments addressed temperature delistings and do not affect the North Fork Coeur d'Alene watershed.

Comment 4: Sentences on flow alteration provided for the record. From Section 1 page 2 of U.S. Forest Service Hydrologic Effects of Vegetation Manipulation Part II Haupt, H. F. et. al. 1976.

Response 4: This material is noted. The SBA has been altered to indicate that discharge alteration is possible but unproven in the first and possibly second order tributaries. However, the flood frequency analysis clearly indicates that this effect is soon diminished in the larger order streams and is not detectable at the USGS gauge sites.

Mike Milhelich  
May 23, 2001  
Page 2.

Comment 5: RASI Indices located on pages 14 & 15. The interpretation of RASI is that bed particles move in high percentages is related to high flows and not road construction.

Response 5: RASI measurements indicate the percentage of the particle size distribution moving in-stream during the two-year flow event. The reason for that movement may be varied. It may be a function of stream power, but it may also be a function of increased sediment yield to the stream.

Comment 6: Residual pool volume located on page 16. Statements from Forest Service documents added to the record on indicating that roading and timber harvest increased peak flows.

Response 6: See response to comment 4.

Comment 7: Fish population data located on page 18. Statements from Forest Service documents provided indicate that cutthroat trout populations have declined.

Response 7: The data in the Table 13 on page 22 support and document this view. The SBA chooses to develop its own conclusions from the data and not rely on those of the agencies.

Comment 8: Land use data located on pages 21-27. Tables leave out the number of acres that have been logged by Forest Service timber sales.

Response 8: DEQ was strongly advised by its sediment technical advisory group that forest acres that had been harvested, but that were now fully stocked with young trees, seedlings and saplings, do not yield sediment at any greater level than areas in coniferous forest. The model was run assigning land types in seedlings and saplings a higher sediment yield to resolve the magnitude of the difference. It was found to be a small component of the sediment source. For these reasons DEQ modeled land use contribution of sediment by assigning non-stocked areas the maximum value of the sediment yield range for coniferous forest on Belt geology, while all other forest land was assigned the mid-range value. These details of the modeling are described in Appendix B.

Comment 9: Forest Land sediment yield and export located on page 28. Comment on the correctness of the WATBAL model.

Response 9: The sediment yield coefficients were incorrectly referred to as the WATSED coefficients. The coefficients are the mean coefficients for Belt geology developed from in-stream sediment measurements in northern and north central Idaho. The mis-identification lead to the mistaken idea that WATSED and WATBAL were used to estimate sediment yield. This is not true.

Comment 10: Sedimentation mechanisms located on page 38. Sentence near bottom of page is not clear in that it ascribes channel instability to stream power and sedimentation. Regenerative logging is adding to stream power and is important in stream instability. It appears some sentences are missing.

Response 10: The missing sentences have been restored.

Comment 11: Vegetation alteration located on pages 39-48. The federal and state laws that the Forest Service must comply with are listed. The assessment does not address watersheds the Forest Service classifies as nonfunctional or functioning at risk. Issues are stated with Forest Service NEPA documents. There is no discussion in the assessment of why the damage happened. Would not a literature search and review of Forest Service document be appropriate? TMDLs that deal with sediment alone and do not address bed load sediment will not meet the requirements of the CWA.



Mike Milhelich  
May 23, 2001  
Page 3

Response 11: The SBA is addressing the listed pollutant of concern. It is not delving into the many federal or even Clean Water Act requirements the Forest Service is required by federal law to adhere to. The SBA must remain focused on the pollutant of concern and it must make the case that the pollutant is impairing the beneficial use(s).

Comment 12: Pollution control strategy located on page 44. Additional timber sales will not solve the water quality problems of the North Fork Coeur d'Alene watershed.

Response 12: The Pollution Control Strategy Section suggests two methods by which the sediment yield might be controlled. One of these would require timber harvest. The SBA has been modified to not take a position on timber harvest. It clearly states this position on page 49. It simply states that if timber harvest is pursued (a decision of the Forest Service, BLM, IDL, Louisiana Pacific and numerous private landowners) the pollution credit scheme suggested might be instituted to make road remediation a part of doing business.

Comment 13: Appendix B pages 1-4. Regarding use of the WATSED model, the final document should have information that indicates the minimum number of acres in a watershed that can be analyzed by the model.

Response 13: See response to comment 9. The WATSED model was not used in the SBA.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, Washington 98101

RECEIVED  
JUN 21 2000  
IDHW-DE  
Coeur d'Alene Field

JUN 19 2000

Reply To  
Attn Of: OW-134

Geoff Harvey  
State of Idaho Department of Health and Welfare  
Division of Environmental Quality  
2110 Ironwood Pkwy  
Coeur d'Alene, ID 83814

Dear Mr. Harvey:

Thank you for giving me the opportunity to provide comments on the North Fork Coeur D' Alene River Subbasin Assessment. Enclosed are detailed comments. The review was based on "Subbasin Assessment: Critical Questions" from the State of Idaho Guidance for Development of Total Maximum Daily Loads. The major concerns with the assessment are listed below.

Although the pollutants of concern in this subbasin include sediment and metals (and dissolved oxygen, oil and gas, nutrients and bacteria for "delisted" waterbodies), the assessment almost entirely focused on sediments. For example, the assessment did not address metals with respect to loads, potential sources, pollution control efforts done to date, planned activities to achieve water quality standards for metals, etc.

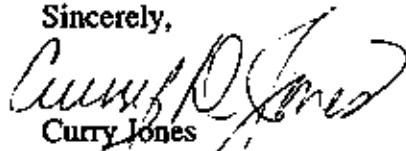
The draft assessment focuses on sediment reductions and does not address stream bed movement and instability, peak flows from canopy removal and bedload movement. The final assessment will need to incorporate the results of the field work scheduled for this summer on channel/stream bed instability and stream bank erosion.

When describing the damage to the watershed caused by excess sediments from vegetation alteration, etc., the assessment failed to provide an explanation or discussion as to why the damage occurred. This makes it difficult to evaluate the likelihood of success for the proposed plan of providing credits for rehabilitating abandoned stream crossings and encroaching roads to the timber industry which could be used toward building new roads. Since road construction and maintenance (or lack of) had been a primary cause of the damage to the watershed, the assessment will need to include an explanation as to how new road construction will not result in negative impacts to the watershed such as further channel instability, hydrologic modification, and habitat degradation, etc. Furthermore, it was not clear whether this proposal has been reviewed and endorsed by IDEQ, the Forest Service, timber companies, and environmental groups. Finally, you failed to provide the timeframe in which the rehabilitation is expected to be completed.

The North Fork Coeur D'Alene Subbasin assessment concludes that 16 waterbodies listed in Table 2 (page 7) are now meeting Idaho water quality standards, and should be removed from the §303(d) list, based on procedures outlined in the 1996 Waterbody Assessment Guidance. EPA reviewed the 1996 WBAG during the 1998 303(d) list cycle and agreed it was an acceptable method for making listing decisions for the 1998 list. However, EPA raised several concerns with the WBAG process, and reached agreement with IDEQ on a time frame to resolve these issues (Letter from: Randall F. Smith, Director, Office of Water, USEPA Region 10; To: Stephen Allred, Administrator, Idaho Division of Environmental Quality; Re: WBAG process and revisions. May 6, 1999). Specifically, revisions to address these concerns were to be completed by the 2002 list cycle. Our agreement for the 2002 list is that all BURP data collected since 1993 would be reconsidered using the revised WBAG process in making listing decisions. While the North Fork Coeur D'Alene Subbasin Assessment concludes that 16 waterbodies listed in Table 2 are now meeting water quality standards and should be removed from the list, the expectation is that these conclusions will be revisited using the revised WBAG before these waters are removed from the Idaho 303(d) list.

If you have any questions about the comments, please feel free to contact me at (206) 553-6912.

Sincerely,



Curry Jones  
Watershed Restoration Unit

Enclosure

# SUBBASIN ASSESSMENT (SBA)

## SCOPE REVIEW

Subbasin:	(Draft) North Fork Coeur D' Alene River Subbasin Assessment
Reviewer:	Curry Jones and Jayne Carlin
Date of Review:	May 10, 2000
Pollutant:	sediment, metals (temperature, dissolved oxygen, oil and gas, nutrients and bacteria)
Type of Proposed TMDL:	Non-Point Source

Reviewers Comments	
Characterization of Watershed	Issues/Comments: <i>None</i>
	Suggestions: <i>None</i>

**Regulatory  
Requirements**

**Issues/Comments:**

- The North Fork Coeur D'Alene Subbasin assessment concludes that 16 waterbodies listed in Table 2 (page 7) are now meeting Idaho water quality standards, and should be removed from the §303(d) list, based on procedures outlined in the 1996 Waterbody Assessment Guidance. EPA reviewed the 1996 WBAG during the 1998 303(d) list cycle and agreed it was an acceptable method for making listing decisions for the 1998 list. However, EPA raised several concerns with the WBAG process, and reached agreement with IDEQ on a time frame to resolve these issues (Letter from: Randall F. Smith, Director, Office of Water, USEPA Region 10; To: Stephen Alfred, Administrator, Idaho Division of Environmental Quality; Re: WBAG process and revisions. May 6, 1999). Specifically, revisions to address these concerns were to be completed by the 2002 list cycle. Our agreement for the 2002 list is that all BURP data collected since 1993 would be reconsidered using the revised WBAG process in making listing decisions. While the North Fork Coeur D'Alene Subbasin Assessment concludes that 16 waterbodies listed in Table 2 are now meeting water quality standards and should be removed from the list, the expectation is that these conclusions will be revisited using the revised WBAG before these waters are removed from the Idaho 303(d) list.
- The TMDL identifies Shoshone Creek as water quality limited for unknown pollutants. What is the pollutant ?
- Include any data information on current and historic water quality and beneficial use status.
- Assessment states that TMDLs are not needed for dissolved oxygen, bacteria, nutrients, or oil and grease (gas?) for Prichard Creek and for pH for EF Eagle Creek, as found no evidence of these impairments. Need to include a reference to the testing and analysis on which these conclusions are based.
- Table 1 identifies Beaver Creek as impaired for sediments and Table 13 identifies this same waterbody as impaired by metals. Which is correct? Is Beaver Creek listed for both sediment and metals ?

	<ul style="list-style-type: none"> <li>• The Subbasin assessment notes that a sediment TMDL is not needed for Beaver Creek since fish density data and residual pool volume are the same as reference streams. Provide a to the reference stream studies, testing or analysis on which the conclusion that Beaver Creek did not need a sediment TMDL was based.</li> <li>• Identify gaps in data or if there are no gaps, then state that fact.</li> <li>• Section 2.3.1 fails to specifically identify active clearcut logging that continues to occur in the North Fork Coeur D' Alene subbasin. A Forest Service memo (October 1997) shows the number of acres that have been logged. This information should be incorporated into the subbasin assessment. The TMDL loading analysis should consider the amount of sediment delivery from recent clearcuts as well as sediment delivery from roads.</li> <li>• Section 2.3.2.3.2 indicates that poor residual pool volume is due to channel instability. In these watersheds where channel instability is the problem, what are the causes of channel instability ?</li> <li>• Section 2.3.2.4 indicates that trout densities have declined due to increased pressure by anglers. A Small Sale Draft EIS, Coeur D' Alene Ranger District, March 2000 report indicates that the primary cause of the decline in trout densities is habitat degradation. Information from the EIS should be considered in completing the subbasin assessment.</li> </ul> <p><b>Suggestions:</b></p> <ul style="list-style-type: none"> <li>• The Table 3: Water Quality Criteria Supportive of Beneficial Uses is confusing and lacks information on the criteria for the following beneficial uses: domestic water supply, agricultural water supply, special resource water (which should be defined), wildlife habitat, and aesthetics. Also this table fails to provide criteria for the following "pollutants" identified in the subbasin: metals, bacteria, oil and gas. The table includes pollutants which are not identified for any of the water bodies such as ammonia and chlorine and combines elements for no known reason such as coliforms and pH and coliforms and dissolved gas. Revise the table to include all the criteria and uses which pertain to this subbasin.</li> </ul>
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<p><b>Water Quality Concerns and Status</b></p>	<p><b>Issues/Comments:</b></p> <ul style="list-style-type: none"> <li>• Addressed only sediments with respect to loads. Needs to address metals (and other pollutants) in terms of loads, except to provide data on concentrations/values and information on likely sources.</li> <li>• Need to provide information on the relationship between metals and sediments (and other pollutants) and impact of land use or source type on quantity and behavior.</li> <li>• Needs to discuss potential and variability of these sources with respect to metals and other pollutants.</li> <li>• The assessment (page 10) identifies bacterial loading comes from predominately from human sources. Is this a point source or non-point source? If this is a point source, then replace human with point source. If this is a non-point source, then the sentence should reflect that the source is non-point source.</li> <li>• Need additional information about how pH and metals listing on the East Fork Eagle Creek are related to metals discharge from the Jack Waite Mining Complex and/or other mines in the areas. Which mines are still in operation? Does the Jack Waite mine (or any of the other mines) have a permit to discharge?</li> </ul> <p><b>Suggestions:</b></p> <ul style="list-style-type: none"> <li>• A more detailed explanation on what is meant by vegetation manipulation and its impact on flow would be helpful.</li> </ul>
<p><b>Summary of Past and Present Pollution Control Efforts</b></p>	<p><b>Issues/Comments:</b></p> <ul style="list-style-type: none"> <li>• Missing discussion on whether any pollution control efforts have been done to address metals.</li> <li>• Need to address present or planned activities to achieve water quality standards for metals.</li> <li>• Need to provide timeframe for planned activities to achieve water quality standards for metals and sediments.</li> </ul> <p><b>Suggestions:</b></p> <ul style="list-style-type: none"> <li>• Noted that intensive road remediation has been completed in Steamboat Creek. Would be helpful to include additional details on the specific types of control efforts took place in Steamboat Creek.</li> <li>• To understand the costs involved in the remediation actions such as road removal, would be helpful to provide amount feet of impaired roads and estimated costs of road removal and/or road remediation.</li> <li>• Although the draft proposed Implementation strategy for the North Fork Coeur D'Alene subbasin encourages decommissioning of old timber roads (not built to FPA guidelines) in sensitive areas, the plan continues to promote active logging practices (including construction of new roads) in area where extensive logging and logging roads have degraded instream water quality. Other pollution control alternatives should be considered because this pollution control effort would not lead to the attainment of water quality standard thereby failing to protect the designated beneficial use.</li> </ul>

May 23, 2001

Curry Jones  
USEPA Region 10  
1200 Sixth Avenue  
OW-134  
Seattle WA 98101

Dear Curry:

Thank you for the comment provided by the Environmental Protection Agency (EPA) on the North Fork Coeur d'Alene River Sub-basin Assessment and Total Maximum Daily Loads (TMDLs) in your letter of June 19, 2000. A considerable amount of comment was received on these documents. Comments raising legal issues comprised some of this comment. Response to the comment and revision of the Sub-basin Assessment (SBA) and the TMDLs has taken some time since the close of comment on January 22, 2001.

The comments made the Environmental Protection Agency (EPA) as we understood them and our responses follow. If a revision was made to the documents this is noted. A responsiveness summary of all the comment will be submitted with the assessment and TMDLs. If you wish to review the comments of others and our response and actions taken, this document should be consulted.

Comment 1: Draft assessment does not adequately address metals.

Response 1: The comment was made to an earlier sub-basin assessment (SBA) draft. Metals issues are covered in section 2.3.2.2.1 of the sub-basin assessment.

Comment 2: The assessment focuses on sediment and does not address streambed movement and instability, peak flows from canopy removal and bed load movement.

Response 2: The SBA focuses on sediment because sediment is the pollutant of concern. Bed load movement and instability are habitat issues that may be exacerbated by excess sedimentation. Peak discharge alteration was not demonstrated by the flood frequency analysis, but is a matter of flow alteration. Canopy removal, like riparian logging impact on large organic debris recruitment, are issues of habitat alteration. The issues raised are matters of either habitat or flow alteration both of which have been deemed by DEQ and EPA beyond the scope of TMDLs because these effects cannot be allocated in mass or energy per unit time.

Comment 3: The assessment does not provide an explanation of how the damage occurred. The assessment needs to explain how new road construction will not cause additional damage. It is not clear that the proposal is endorsed by the stakeholders.

Response 3: The SBA contains this information, but it is within the model interpretation. It is clear that roads that encroach on streams and to a lesser extent stream crossings are the major sediment contributors. This is not to say that non-stocked forest acres, mass failures and other sources are not site specifically problems, but these are minor sediment sources. The construction of any new roads will be with methods and in locations that will solve these problems. The old road in many cases must be removed. These issues are covered in the pollution control strategy. The stakeholder agreement was on the sediment model



development. That model was then applied and the sources identified. The SBA will be modified to further clarify the sources and the remedial requirements.

Comment 4: Segments de-listed from the 1996 list in the 1998 list must be re-assessed with an improved WBAG process when this has been developed.

Response 4: When WBAG2 is approved streams could be reevaluated. It is the decision of the State DEQ office what data sets are used to reevaluate streams and which streams are reevaluated. It will not likely affect the metals impaired streams since the exceedence of metals standards is clear-cut. It will also not affect the sediment TMDL since by necessity it must be written for the entire watershed to address the lowest segment of the watershed that is impaired, The North Fork Coeur d'Alene River from Yellow Dog Creek to its mouth.

Comment 5: The 16 segments dropped from the 1998 303(d) list need to have the BURP data since 1993 reassessed with the improved WBAG system.

Response 5: See response to EPA comment 4. When WBAG2 is approved streams could be re-evaluated. It is the decision of the State DEQ office what data sets are used to reevaluate streams. In the case of the segments de-listed in the North Fork Coeur d'Alene River HUC this is a moot point. They are all listed for sediment. A sediment TMDL addresses all of these segments.

Comment 6: The TMDL should identify Shoshone Creek as water quality limited for unknown pollutants. What is the pollutant?

Response 6: The SBA could not find any evidence of an unknown pollutant in Shoshone Creek. Pollution is most likely from sediment. The stream is included in the sediment TMDL

Comment 7: Include any data information on current or historic and beneficial use status.

Response 7: The available data is included on the historic and current beneficial use status. This is specifically the fisheries data in table 13 of the SBA.

Comment 8. Need to include data for Prichard and EF Eagle Creek on dissolved oxygen, bacteria, nutrients and oil and grease and pH.

Response 8: The SBA has been revised with this data now included.

Comment 9: Table 1 identifies Beaver Creek as impaired for sediment while Table 13 identifies it as listed for metals. Which or are both correct?

Response 9: Table 13 is now Table 18. Beaver Creek was listed for sediment. Data in the SBA and noted in Table 18 does not support the sediment listing. Nevertheless Beaver Creek is included in the basin wide sediment TMDL making the point moot. The SBA further found clear exceedences of trace metals standards. Beaver Creek is clearly impaired by metals as clarified in Table 18 that summarizes the results of the assessment.

Comment 10: The SBA concludes that a sediment TMDL is not needed for Beaver Creek because fish density and residual pool volumes are similar reference streams. Provide the reference stream studies.

Response 10: The reference stream data is provided in Tables 12 (residual pool volume) and 13 (fish density). These data for reference and listed streams is drawn from the BURP database and various fishery studies referenced in Tables 12 and 13 respectively. Buckskin is the control stream of the most analogous

size. Beaver Creek appears to have adequate residual pool volume, while its fish density and composition are similar with control stream.

Comment 11: Identify data gaps if none so state.

Response 11: Data gaps were identified. These were stated in the SBA in section 2.3.2.5.3.

Comment 12: Section 2.3.1 fail to specifically identify active clear-cut logging that continues in the North Fork. A Forest Service memo shows the clear-cut acres that have been logged. This information should be incorporated in the SBA.

Response 12: We disagree. Clear-cut logging over 40 acres is rare in the forest. The contention is made that clear-cuts add remarkably to sedimentation, however modeling with all non-stocked, seedling and sapling cover types assigned the highest sediment yield coefficient for coniferous forest on a Belt geology demonstrated only marginally higher sediment discharge to the streams. The strongly held conviction that clear-cuts themselves markedly increase sedimentation does not hold up to analysis. These points were expanded on in the SBA. The level of land treatment over the history of the forest is estimated in section 2.1.2.

Comment 13: Section 2.3.2.3.2 Indicates that poor residual pool volume is due to channel instability. What are the causes of the channel instability.

Response 13: The causes of channel instability can be stream power or excess sedimentation as explained in section 2.3.2.5.3. The flood frequency analysis does not support higher than normal discharges based on existing data from the gauges and the flood history. The assessment has been revised to suggest that first and second order tributaries might have higher discharges after harvest but no data fully supports this. Such effects are de-synchronized in the larger watershed. The model clearly indicates excess sedimentation. The SBA comes to the conclusion excess sedimentation is the most likely cause of bed instability and pool filling and the sediment TMDL addresses that sedimentation.

Comment 14: Section 2.3.2.4 Indicates that trout densities have declined due to angler pressure while USFS EIS ascribes it to habitat alteration. Information from the EIS should be included in the SBA.

Response 14: The SBA considers fishing pressure as a possible cause of low densities, however the SBA is clear in ascribing low trout density to sedimentation. DEQ would rather draw its own conclusions based on the data rather than to rely on the potentially biased opinions of any of the stakeholders. The SBA comes to the same conclusion as the Forest Service EIS selected to make a point.

Comment 15: Table 3: is confusing not including standards for DWS, AWS and SRW and including standards for pollutants not of concern to the SBA.

Response 15: Table 3 is a designed to be a general review of all the state water quality standards that affect the most sensitive and important beneficial uses of the North Fork or for that matter most forested watersheds. Domestic (DWS) and Agricultural Water Supply (AWS) do not have specific support standards in-stream in the Idaho water quality standards. Special Resource Water is a designation addressing the applicability of point discharges. The North Fork has no point discharges. For these reasons these beneficial uses were not included in a short synopsis table of the most germane standards. No table in a SBA can replace a full reading of the Idaho Water Quality Standards and Wastewater Treatment Requirements and this is not the intention of Table 3.

Comment 16: The SBA addresses only sediments with respect to loads. It needs to address metals and other pollutants.

Curry Jones  
May 23, 2001  
Page 4.

Response 16: This comment is in response to an earlier draft of the SBA. The SBA addresses metals loads and metals TMDL allocations are provided for the streams impaired by metals.

Comment 17: Need to provide information on the relationship between metals and sediments.

Response 17: The SBA indicates the only relationship between metals and sediment. Lead is particulate bound. There is no other relationship between metals (zinc and cadmium in the dissolved fraction and lead on fine particulate) and the sediment (cobble) filling pools in the North Fork. Sediment from mining sources is a very small component even in the Prichard and Beaver Creek watersheds as compared to sediment from other sources. On a North Fork wide basis there is no comparison.

Comment 18: Need to discuss potential and variability of these sources with respect to metals and other pollutants.

Response 18: Variability of sediment discharge to the streams is discussed and its episodic nature noted. The variability of metals loads is addressed in the SBA and TMDLs by addressing flow tiers (seasonal discharge).

Comment 19: The SBA (p. 10) identifies bacterial loading from human sources. Is this point or nonpoint sources?

Response 19: The SBA is discussing potential bacterial sources on page 10. The lack of in-stream bacteria detection indicates this is not an issue.

Comment 20: Need additional information about pH and metals on East Fork Eagle Creek and metals data from the Jack Waite complex. Does Jack Waite or other mines have permitted discharges?

Response 20: The comment was made to an earlier draft of the TMDL. These data are provided in the current SBA draft. The fact that the Jack Waite Adit discharge and for that matter the discharge of all adits in Beaver, Prichard and East Fork Eagle Creek are not permitted is noted.

Comment 21: Suggest more information on vegetation manipulation and its impact on flows.

Response 21: The flood frequency analysis and historical flood data, which is the existing data does not support the contention that vegetation manipulation has altered discharge on a large basin basis. The flood frequency of the North Fork is analyzed on page 11 of the Sub-basin Assessment. The analysis examines the peak discharge events over the past sixty-two years. It finds that the 1974 and 1996 high discharge events are the largest of record. The 1933 event is thought to be the largest flood of historic times based on photographic evidence and the Cataldo and Post Falls gauges. The 1974 and 1996 events are listed in their order of size. The history of logging is clear that clear-cuts began in the forty's and fifty's and intensified through the 1960's and 1970's and decelerated into the 1980's. The flood history does not support the argument that clear-cutting has caused greater flood discharges basin wide.

The riverbed has filled with cobble materials. This phenomenon is related to erosion rates. The presence of this material has caused discharges of lower amounts to result in more over bank flooding, causing the impression that higher discharges have occurred with the proliferation of clear-cutting.

Higher discharge may occur in first and second order tributaries, but no data exists to support this contention. We have found the belief that clear-cutting increases discharges in the Coeur d'Alene basin to be firmly held, but with little evidence to support it.

Curry Jones  
May 23, 2001  
Page 5.

The SBA was altered in many places to clarify this picture.

Comment 22: The SBA is missing discussion on pollution control efforts to control metals.

Response 22: This material is missing. Metals pollution control is taking shape in the Beaver and Prichard Creek watersheds. This information was added to the pollution control strategy section of the SBA.

Comment 23: The SBA needs to discuss present and planned activities to achieve water quality standards for metals.

Response 23: See response to EPA comment 22.

Comment 24: The SBA needs to provide the time frame for activities to achieve water quality standards for metals.

Response 24: A time line to address metals is provided in the pollution control strategy.

Comment 25: Would it be helpful to further describe the specific control efforts taken in the Steamboat Creek watershed?

Response 25: These controls were road removal actions. This fact was noted in the actions to date section. It was noted that the Autumn and Martin Creek actions were road removal actions.

Comment 26: To understand the cost of road removals it would be helpful to include additional details on the number of feet of roads to be removed and the costs.

Response 26: This assessment was not made directly for the SBA modeling but estimates are available in the GIS coverages. It would be premature to make such an assessment at this time since the estimates require ground truthing. Such an estimate is much more reasonable as a part of the implementation plan.

Comment 27: Other pollutant control alternatives should be considered because this pollution control effort would not lead to attainment of water quality standards.

Response 27: We respectfully disagree that with EPA's assertion that road removal pollution control strategy would not work. Model results based on the most current GIS databases clearly point to encroaching roads and road crossings as the major sediment source to the North Fork watershed. Road removal is a tested technology that must be paid for by some funding mechanism, but two are mentioned in the SBA. The record indicates and is supported by model results, that if roads are properly sited and constructed, sediment yield from them is a small fraction of that from improperly sited and constructed roads. The Forest Service has demonstrated road removal is effective. The only outstanding question is how to pay for it. The SBA makes an innovative suggestion. However it is not for DEQ or EPA to decide such funding issues directly.

Thank you for the comments that were developed on the North Fork Coeur d'Alene River Sub-basin Assessment and TMDLs. If you have questions concerning our responses or the actions taken, please contact me at 208-769-1422.

Sincerely,

Geoffrey W. Harvey  
Watershed Coordinator